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ABSTRACT

Results of the 1980-81 Survey of Earned Doctorates conducted by the National Research Council, are summarized in tabular, graphic, and narrative form. Research and applied-research degrees are included, but professional degrees are not. Highlights include these: total doctorates awarded were 31,319, 1 percent increase from the previous year; the proportion awarded to women increased from 30.3 to 31.5 percent, continuing a trend begun in 1965; women's participation increased in all major fields except the physical sciences; from 1971 to 1981, women doctorates in education more than doubled, with a 22 percent decrease for men; men's doctorates decreased by less than 1 percent from 1980 to 1981, the smallest decrease since 1973; the proportion of doctorates in engineering reporting foreign citizenship exceeded the proportion reporting U.S. citizenship; earnings, teaching assistantships, and research assistantships were reported by over 60 percent of doctorates as primary sources of support; women reported self-support (earnings, spouse's earnings, and family contributions) with greater frequency than men, with twice as many men as women reporting research assistantships as primary sources of support; and Asians reported the highest frequency of support from university sources and American Indians reported greatest support from self sources and, as did whites, from federal aid. The survey form, specialties list, and degrees included are appended. (MSE)

ED221134

Summary Report 1981 DOCTORATE RECIPIENTS FROM UNITED STATES UNIVERSITIES

The Survey of Earned Doctorates is conducted by the National Research Council for the National Science Foundation, the U.S. Office of Education, the National Institutes of Health, and the National Endowment for the Humanities

Peter D. Syverson
Operations Manager
Doctorate Records Project

Office of Scientific and Engineering Personnel
NATIONAL RESEARCH COUNCIL

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FOREWORD

Presented in this report is a summary of the results of the 1980-81 Survey of Earned Doctorates. The survey is conducted each year by the Office of Scientific and Engineering Personnel (formerly the Commission on Human Resources) of the National Research Council. The questionnaires are distributed with the cooperation of the graduate deans of U.S. universities and are filled in by the graduates when they complete all requirements for their doctoral degrees. The doctorates reported here were earned during the period July 1, 1980 to June 30, 1981. Research and applied-research doctorates in all fields are included in the survey, but professional doctorates such as M.D., D.D.S., O.D., D.V.M., and J.D. are not. A full list of titles of degrees included is shown on the inside back cover.

Responses were received from 29,924 or 96 percent of the 31,319 doctorates granted in 1981. When completed forms are not received from individual doctorate recipients, abbreviated records are constructed using information from the university's commencement bulletins. As a result, basic information, such as sex, field, institution, and year of Ph.D., is available for all of the 31,319 doctorate recipients.

The Survey of Earned Doctorates has been conducted each year, beginning in 1958. Yearly summaries of data from the survey have been published since 1967; this is the fifteenth in the series. Trend data from earlier periods can be found in the book *A Century of Doctorates* (National Academy of Sciences, 1978).

The conduct of the Survey of Earned Doctorates questionnaire, the maintenance of the resulting data file, and the publication of this report are supported jointly by the National Science Foundation, the Department of Education, the National Institutes of Health, and the National Endowment for the Humanities. The Office of Scientific and Engineering Personnel (OSEP) thanks these agencies for their assistance. Charles Dickens of the

National Science Foundation is the project officer for the agencies; his interest and assistance are appreciated. We also express our thanks to the graduate deans in the doctorate-granting institutions for their continuing interest and assistance in this project.

The Survey of Earned Doctorates is under the direction of Peter Syverson. Elise Brand had continuing responsibility for the development of the summary statistics presented in the present report. In addition, Dr. Dickens of the National Science Foundation, Donald Bigelow of the Department of Education, George Bowden of the National Institutes of Health, and Arnita Jones of the National Endowment for the Humanities have provided constructive advice in the design and analysis of the Survey, a contribution that increases its relevance to national policy issues. Kenneth R. Gros Louis, Kumar Patel, and Michael J. Pelczar provided valuable assistance in review of the report. Special appreciation also goes to Doris Rogowski who supervised the coding and editing of the data, to Joseph Finan and George Boyce who were responsible for the computer programming and processing, and to Olivia Waller for her meticulous care in typing the report.

OSEP is concerned with those activities of the National Research Council that contribute to the more effective development and utilization of the nation's scholars and research personnel. Its programs seek to strengthen higher education and to develop better understanding of the educational process. It is hoped that prompt reporting of the present data to educational, governmental, and professional agencies will facilitate planning in higher education. Suggestions for improvement of the content or format of the report and questions or comments are welcomed. Such communications may be directed to the Office of Scientific and Engineering Personnel, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

Peter D. Syverson
Operations Manager

NOTICE: This report is based on research conducted by the National Research Council with the support of the National Science Foundation, the Department of Education, the National Institutes of Health, and the National Endowment for the Humanities under NSF Contract No. SRS-8112833. Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the National Research Council and do not necessarily reflect the views of the sponsoring agencies.

INTRODUCTION

A total of 31,319 research doctorates were awarded by U.S. universities during the period July 1, 1980 to June 30, 1981, an increase of 1 percent or 303 from the 31,016 doctorates granted in 1980 (Text Table A). Displayed in Figure 1 are data on the trend in doctorates awarded over the past two decades. The period from the mid 1960's to 1973 of large annual increases in number of doctorates has been followed by gradual decreases through the 1970's with small increases in 1979 and 1981. Despite these increases, the 1981 total is 7 percent less than the peak of 33,756 doctorates awarded in 1973.

TEXT TABLE A
Doctorates Awarded by U.S. Universities, 1960-1981

Year	Doctorates	Year	Doctorates
1960	9,733	1971	31,867
1961	10,413	1972	33,044
1962	11,500	1973	33,756
1963	12,729	1974	33,047
1964	14,325	1975	32,951
1965	16,340	1976	32,946
1966	17,949	1977	31,718
1967	20,403	1978	30,873
1968	22,936	1979	31,235
1969	25,743	1980	31,016
1970	29,498	1981	31,319

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File

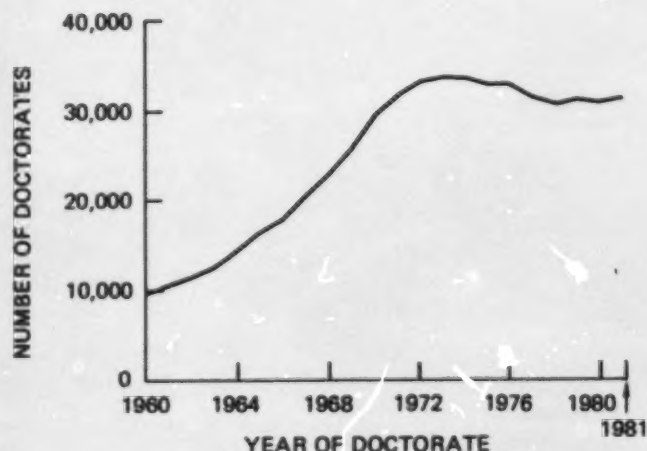


FIGURE 1
Doctorate Recipients from United States Universities, 1960-1981. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

Selected statistics from the 1981 Survey of Earned Doctorates and from past surveys are highlighted in the following pages. Because of current concern with student debt and the financing of graduate study, this report takes as a special theme the sources of support used by doctorate recipients during graduate studies. The Summary Report for 1980, readers of this report may remember, highlighted data on the characteristics of non-U.S. citizen doctorate recipients--their countries of citizenship, fields of study, sources of support in graduate school, and postdoctoral employment and study plans. Statistics on the postgraduation employment plans of Ph.D. recipients and the number of doctorate recipients planning postdoctoral study in foreign countries were examined in the 1979 Summary Report.

TRENDS IN THE NUMBER OF DOCTORATES BY FIELD FOR MEN AND WOMEN

The proportion of doctorates granted to women increased from 30 percent of the total in 1980 to 32 percent in 1981, continuing a trend that began in 1965 when 11 percent of the new doctorates were women. The number of doctorates granted to women has increased each year since 1965.^{1/} While the total number of doctorate recipients in 1981 was about the same as in 1971, the number of women doctorates has more than doubled during the past eleven years from 4,596 to 9,872. Text Table B and

^{1/}Data for 1920 to 1970 were published in Summary Report 1975: Doctorate Recipients from United States Universities, p.4, National Research Council, 1976.

Figure 2 show the distribution of doctorate recipients by broad field and sex for the period 1971 to 1981.

The number of women doctorate recipients increased in all broad fields between 1980 and 1981 with the exception of the physical sciences, where the number of women remained constant at 502. The largest numerical increase was in education, where the number of women rose by 151 to 3,534. The "professional"^{2/} fields showed the largest proportional increase, up 13 percent from 1980. The number of women doctorates in the humanities increased for the first time since 1975. Table 2 on page 33 shows that a greater number of women received doctorate degrees in two humanities disciplines--English and American languages and literature and foreign languages and literature--than did men.

For men, the number of new doctorates decreased slightly, from 21,610 in 1980 to 21,447 in 1981. While this 1 percent decrease is the smallest since 1973, it represents a continuation of the steady decline in the number of men doctorates since 1972. By field, the number of doctorates granted to men increased in the physical, life, and social sciences and in engineering, with countervailing decreases in the humanities, professional fields, and education. The decrease in the number of men doctorates in education--the largest decrease over

all broad fields--is in contrast to the increase in the number of women earning doctorates in education. In fact, from 1971 to 1981 the number of men education doctorates decreased 22 percent while the corresponding number of women increased 163 percent. The number of women doctorates in education is now within 11 percent of the number of men. If this trend continues, education may soon become the first broad field where the number of doctorates granted to women exceeds the number granted to men.

PRIMARY SOURCE OF FINANCIAL SUPPORT IN GRADUATE SCHOOL

The following presentation focuses on the sources of financial support doctorate recipients have reported using for their graduate study. This discussion of the sources and distribution of support may help to shed light on the current national situation in the financing of U.S. higher education. While the tables and graphs that follow are by no means exhaustive of the doctoral data, they illustrate some of the many ways the survey results can be used.

Data on sources of support are derived from responses to item 15 on the questionnaire (p. 43). Since the 1978 survey this question has asked the doctorate recipient to identify his or her primary and secondary sources of support and to check all

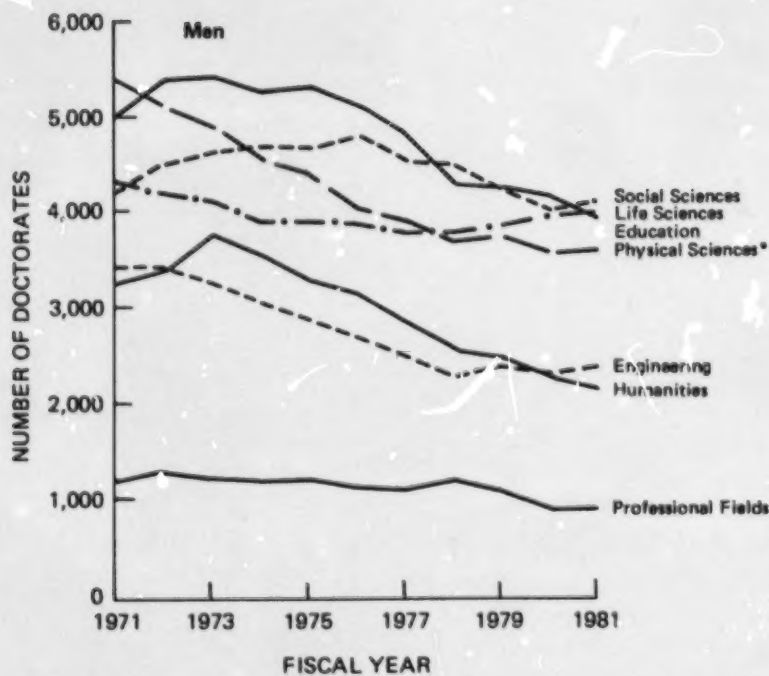
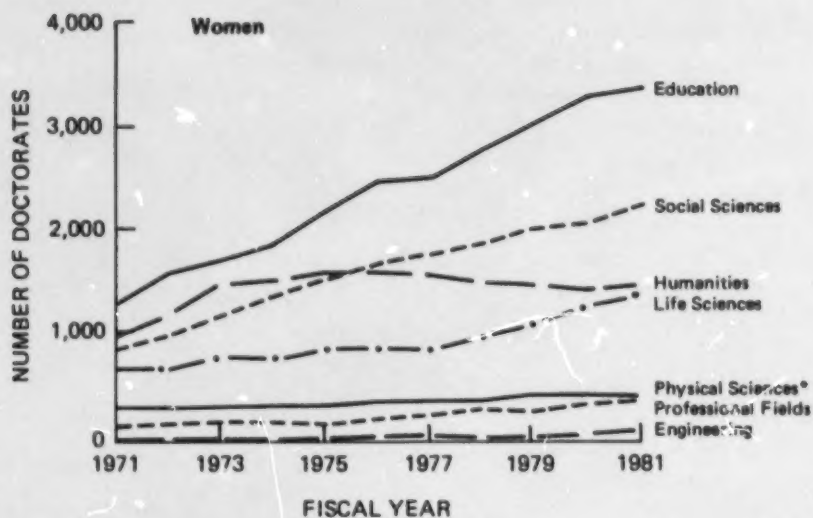
TEXT TABLE B
Number of Doctorates Awarded by United States Universities by Broad Field and Sex, 1971-1981

Year	Total		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Professional Fields		Education	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
1971	27,271	4,596	5,398	341	3,483	15	4,360	715	4,265	924	3,314	1,063	1,262	177	5,089	1,346
1972	27,257	5,287	5,171	367	3,481	22	4,221	731	4,558	1,053	3,440	1,274	1,349	184	5,439	1,646
1973	27,671	6,085	4,929	382	3,318	46	4,140	868	4,692	1,246	3,217	1,547	1,258	201	5,456	1,783
1974	26,594	6,453	4,592	384	3,114	33	3,967	867	4,727	1,446	3,594	1,576	1,226	194	5,302	1,939
1975	25,750	7,201	4,454	403	2,950	52	3,955	950	4,711	1,610	3,239	1,687	1,243	208	5,064	2,295
1976	25,262	7,684	4,089	420	2,780	54	3,922	959	4,856	1,734	3,208	1,673	1,189	290	5,185	2,540
1977	23,860	7,858	3,949	430	2,569	74	3,817	957	4,691	1,837	2,903	1,659	1,045	308	4,870	2,585
1978	22,552	8,321	3,754	439	2,370	53	3,809	1,086	4,510	1,955	2,635	1,596	1,128	330	4,339	2,855
1979	22,299	8,936	3,803	496	2,428	62	3,888	1,196	4,283	2,109	2,546	1,592	1,059	366	4,277	3,107
1980	21,610	9,406	3,609	502	2,389	90	3,991	1,347	4,086	2,168	2,336	1,532	982	376	4,203	3,383
1981	21,447	9,872	3,666	502	2,429	99	4,018	1,443	4,190	2,315	2,198	1,547	964	424	3,995	3,534

*Includes mathematics and computer science.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Record File.

^{2/}The category "professional fields" includes doctorate recipients in fields such as business administration, social work, theology, and speech and hearing sciences. A listing of the subfields included in each broad field can be found inside the back cover.



*Includes mathematics and computer sciences.

FIGURE 2
 Number of Doctorates Awarded by U.S. Universities by Broad Field and Sex,
 1971-1981. SOURCE: NRC, Office of Scientific and Engineering Personnel,
 Doctorate Records File.

other sources from which some support was received. Primary source responses were chosen for this analysis because these provide a measure of the relative magnitude of support received, even though data on the monetary value of support are not collected. The differences between tabulations of primary source responses and responses that simply indicate that some support was received from a particular source can be seen by comparing Text Table C (p.13) and Table 3 (p. 38). For example, while 16 percent of all 1981 doctorate recipients reported receiving some measure of support from family contributions, only about 2 percent noted

that source as the primary source of support. In contrast, the 7 percent reporting receiving some support from NIH were more closely matched by the 5 percent who reported NIH as their primary support source. Of the 31,319 doctorate recipients in 1981, 29,480 or 94 percent responded to item 15, and 27,769 or 94 percent of those respondents provided usable information on primary source of support.

The 24 sources of support listed in item 15 have been collapsed into the following 13 categories for purposes of this analysis, with subtotals for the federal, university, and self-support sources:

Category

Federal
NSF
NIH
Other Federal

U.S. National Fellowship

University
University Fellowship
Teaching Assistantship
Research Assistantship^{3/}

Business/Industry

Self Support
Own Earnings
Spouse's Earnings
Family Contributions

Loans

Other

Responses Included

NSF Fellowship, NSF Traineeship NIH Fellowship, NIH Traineeship, NDEA Fellowship, Title IX Graduate and Professional Opportunities Program Fellowship, NASA Traineeship, GI Bill, Other Federal Support

Woodrow Wilson Fellowship, Other U.S. National Fellowships

University Fellowship
Teaching Assistantship
Research Assistantship

Educational Fund of Industrial or Business Firm

Own Earnings
Spouse's Earnings
Family Contributions

National Direct Student Loans, Other Loans

Other Institutional, Other Sources

Support Source by Field and Year of Doctorate

Displayed in Text Table C are data on primary support source by field for the 1978 to 1981 period. It should be noted that as the median time lapse between baccalaureate and receipt of the doctoral degree ranges from 7.8 years in the sciences to 13.5 years in education (see Table 2, page 32), the patterns of support discernible in these tables were established in the early 1970's and are not likely to be the result of recent changes in the financing of graduate education.

From 1978 to 1981, there appears to be considerable stability in the proportions of doctorates reporting support from each of the 13 sources in Text Table C. The largest change in a single support source was a 2 percent decrease in the proportion of doctorates reporting "other federal" as their primary source. During this time, support from federal sources and spouse's earnings tended to decline, while support from research assistantships, own earnings, family contributions, loans, and the "other" sources increased.

During these years, "own earnings" remained the

^{3/}The question on source of support does not allow for the separation of research assistantships funded by federal agencies from those supported through university sources. Recognizing the significant proportion of research assistantships supported by federal funds (some 56 percent according to the 1981 NSF Survey of Graduate Student Support and Postdoctorals) this support is nevertheless channeled through the university and as a consequence is reported here in combination with teaching assistantships and university fellowships.

most frequently reported source, followed by teaching and research assistantships. These three sources accounted for over 60 percent of all primary source responses (see Figure 3). Own earnings was a significant source of support in all fields, but was particularly important in education, the professional fields, psychology, and humanities. Teaching assistantships were of primary importance in mathematics, the humanities, chemistry, the social sciences, and physics; research assistantships in the physical sciences, engineering, computer science, and the life sciences.

While the other 10 sources were of considerably lower total magnitude, some of them were concentrated in particular fields. NIH support, although eighth largest overall, was first and second in the medical and biological sciences respectively. The category "other sources," which has as a large component support from foreign countries, was important for Ph.D.'s in agricultural sciences, the field with the second largest proportion of non-U.S. citizens. Support from the NSF was concentrated in the physical sciences, mathematics, engineering, computer sciences, and the biological sciences.

Figure 4 presents field profiles of the primary sources of support reported by 1981 doctorate recipients. The physical science fields--physics and astronomy, chemistry, and earth sciences--share a pattern of concentration of support from research

assistantships, although in chemistry teaching assistantships are common. The 57 percent of physics doctorates reporting research assistantships as their primary source represents the largest concentration on a single source of support in any field.

Mathematics has nearly a complementary pattern, with teaching assistantships as the major source. Like physics, the 55 percent of mathematics Ph.D.'s reporting teaching assistantships is the largest proportion reporting that source among the Figure 4 fields. Computer science and engineering share nearly the same support pattern, with research assistantships, teaching assistantships, and own earnings as the top three sources. Computer scientists were most likely to report NSF support for graduate study. Not surprisingly, graduate student support from industrial or business firms was most prevalent in engineering and computer science, with 4 percent and 3 percent of students in those fields receiving some assistance from that source.

Support from the NIH and from research assistantships were the two sources most frequently reported by Ph.D.'s in the biological and medical sciences. Own earnings was reported as the primary source by 16 percent of the medical scientists, a comparatively large proportion. The agricultural sciences have a different support pattern from the other life science fields, with research assistantships and "other" as the leading sources. A review

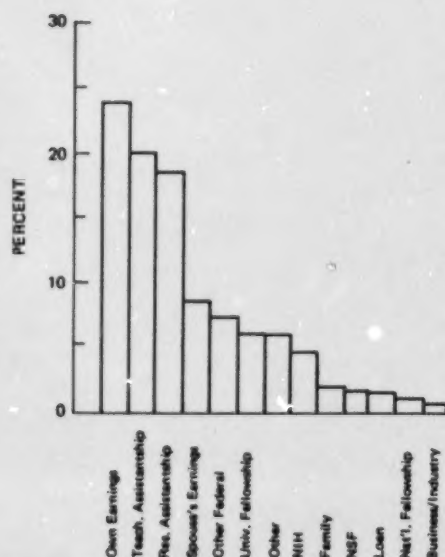


FIGURE 3
Primary Source of Support for 1978-1981 Doctorate Recipients Ranked by Proportion Reporting Each Source.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

of the written-in responses to the "other" item reveals that this category is typically used by non-U.S. citizen Ph.D.'s to denote support from their home countries.

In the social science fields, teaching assistantships and own earnings were the sources of graduate student support most frequently reported. Doctorate recipients in psychology reported own earnings as the primary source more frequently than in all other science and engineering fields, and support from loans more frequently than in all 17 fields.

As in the social sciences, doctorate recipients in the humanities relied primarily on teaching assistantships and own earnings for their support during graduate school. More significantly, three other sources--university fellowship, spouse's

earnings, and family contributions--were reported more frequently by humanities Ph.D.'s than by those in any other fields.

Own earnings, teaching assistantships, and spouse's earnings were the major sources reported by doctorate recipients in the professional fields. Their largest source--own earnings--was reported more frequently here than in any of the other fields except education.

Over one-half of the doctorate recipients in education reported primary support from their own earnings, a considerably greater frequency than in all other fields. Teaching assistantships, spouse's earnings, and "other federal"--for the most part from the G.I. Bill--are the other significant sources of support for education doctorates.

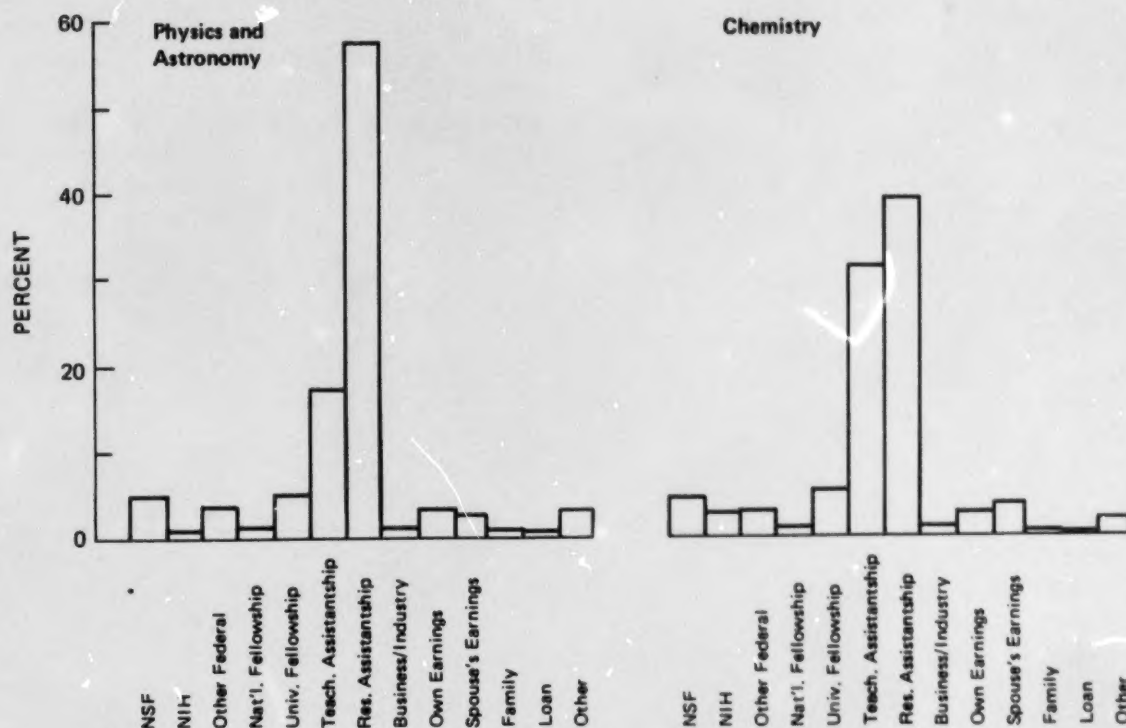


FIGURE 4
Primary Source of Support for 1981 Doctorate Recipients by Field of Doctorate.
SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

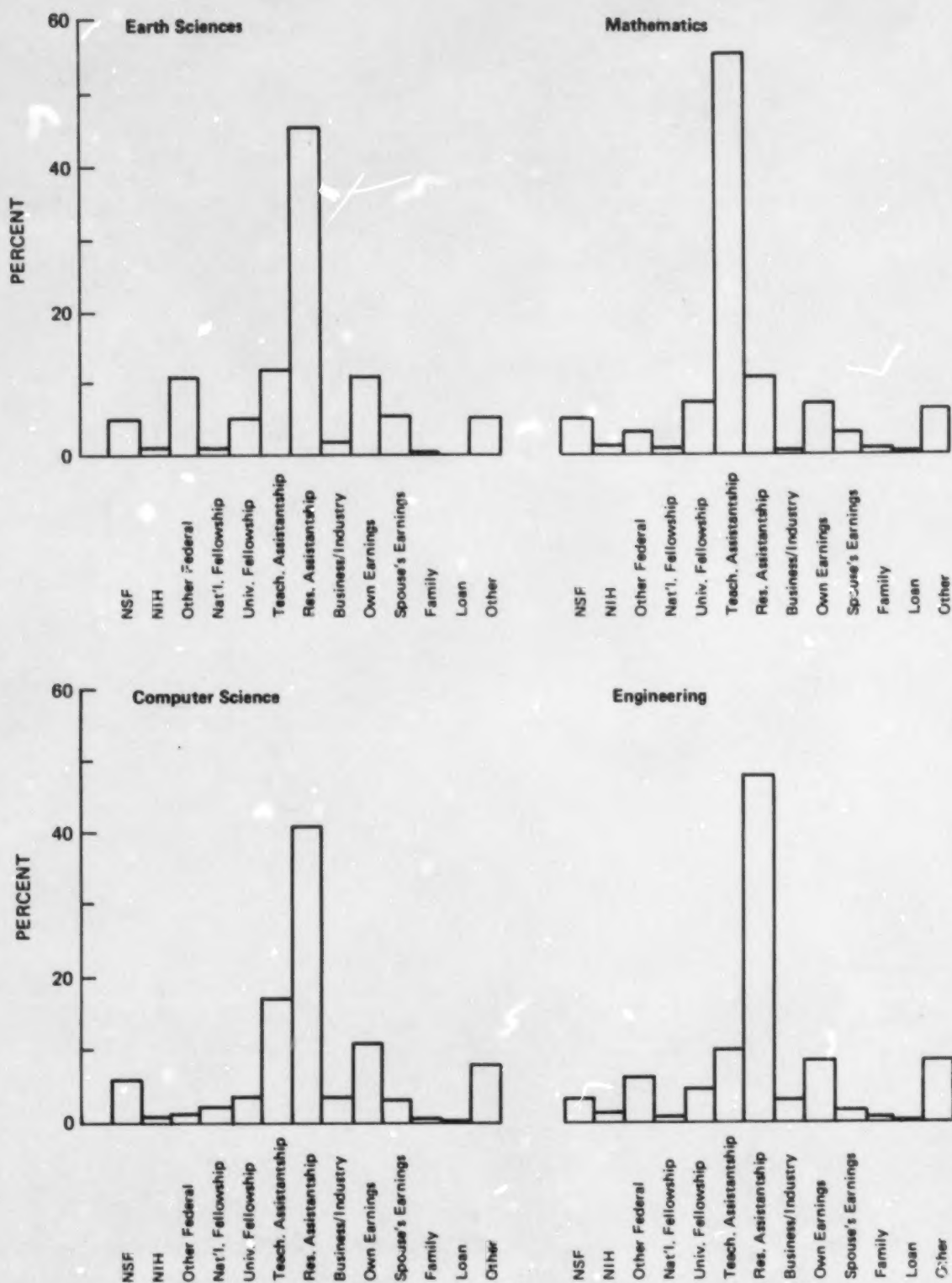


FIGURE 4. Continued.

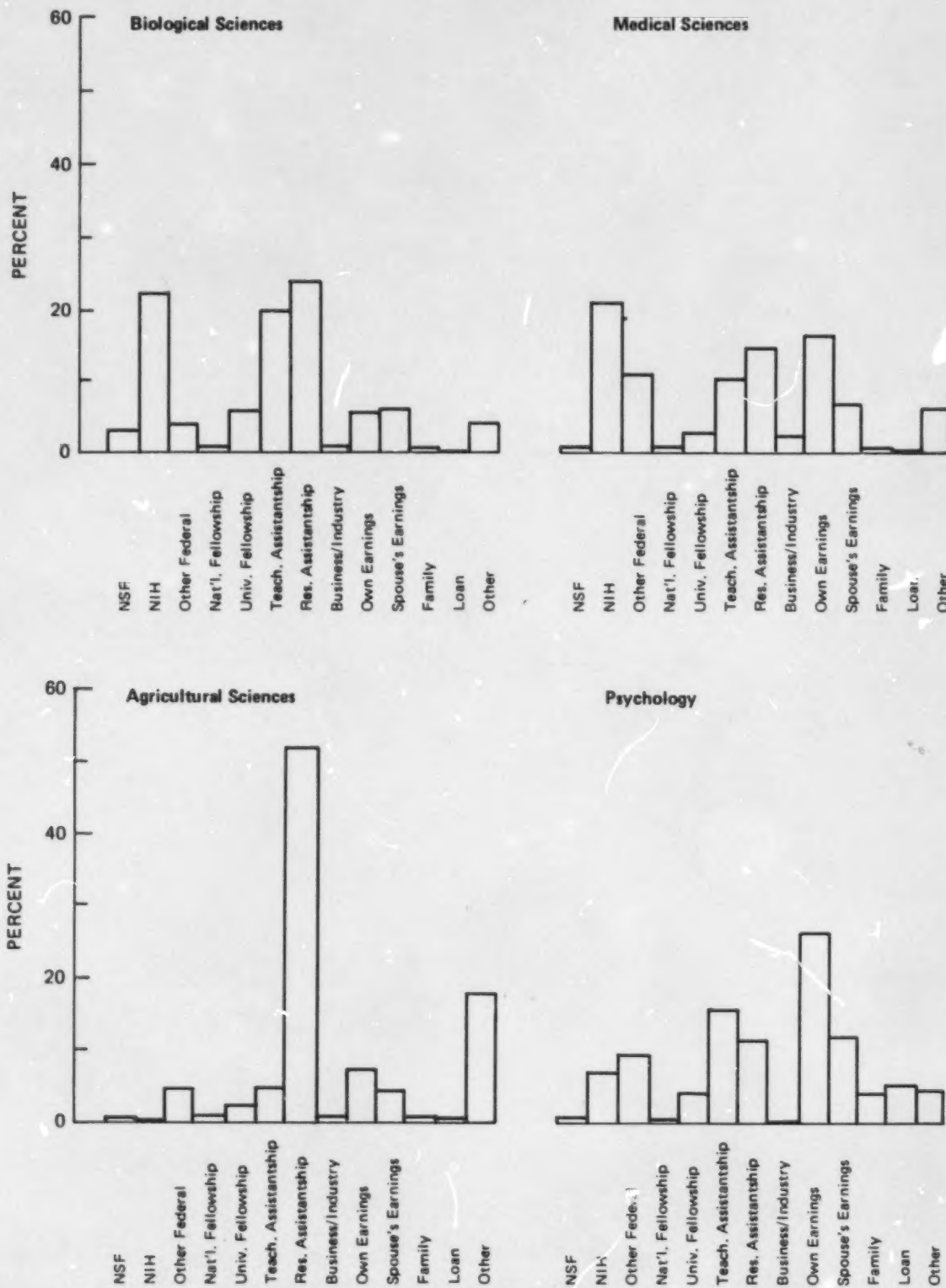


FIGURE 4. Continued

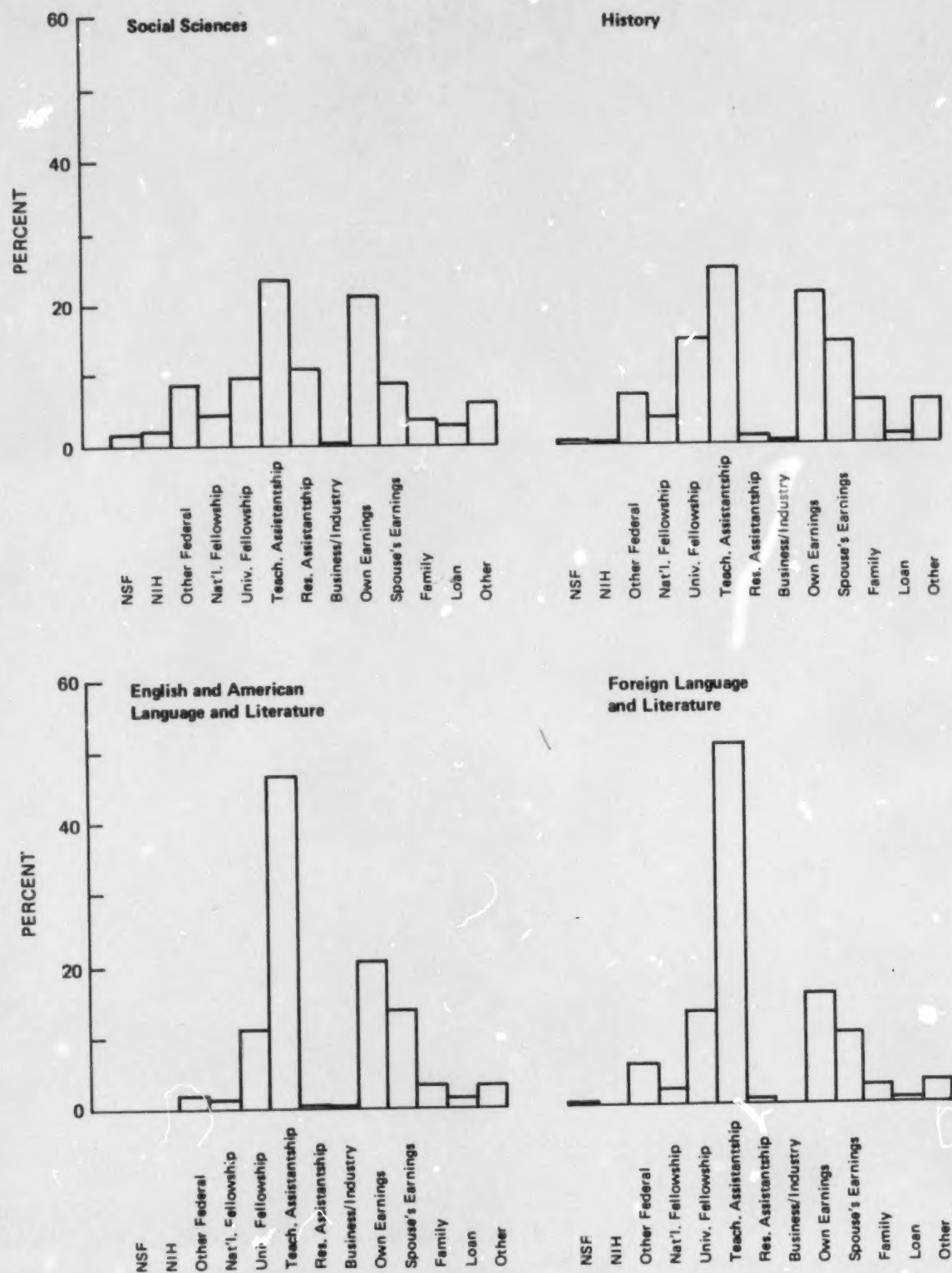


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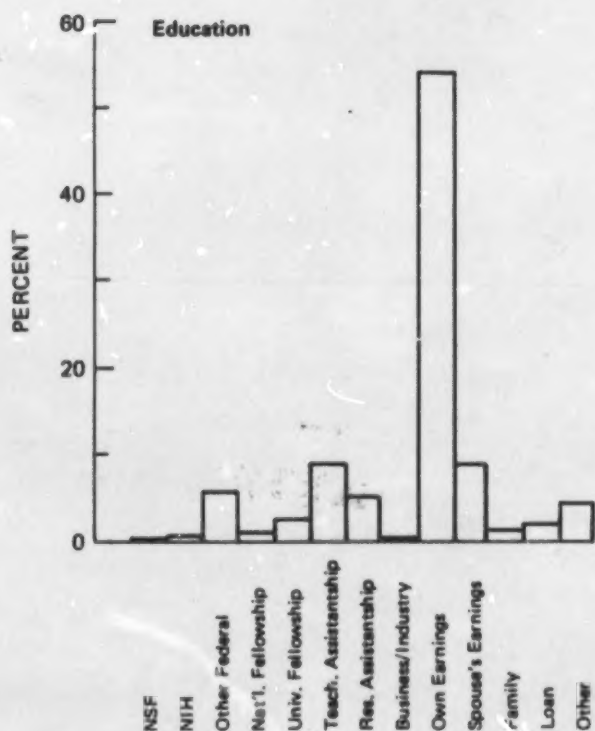
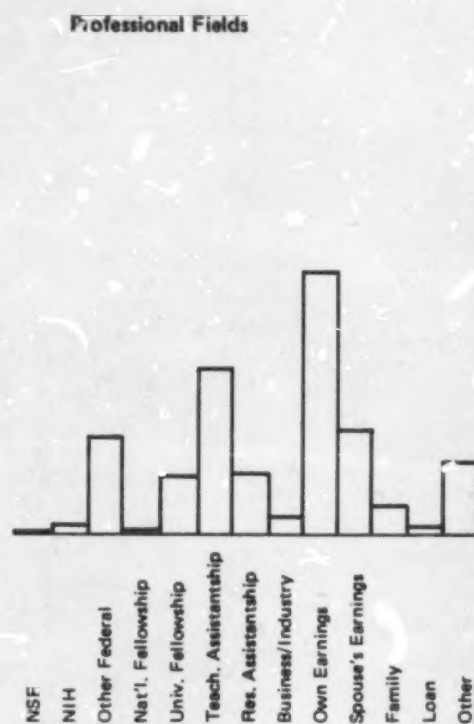
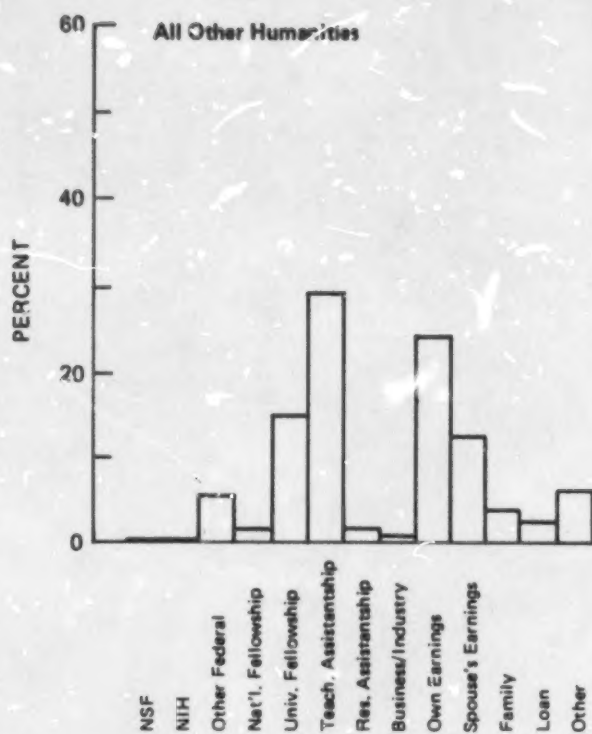


FIGURE 4. Continued

TEXT TABLE C
PRIMARY SOURCE OF SUPPORT IN GRADUATE SCHOOL FOR 1978-1981: PERCENTAGE OF
DOCTORATE RECIPIENTS REPORTING PRIMARY SOURCE BY FIELD AND YEAR

SUPPORT SOURCE	FIELD OF DOCTORATE															ALL OTHER HUMAN PROP.		
	TOTAL ALL PLCS.	PHYS. ASTR.	CHEM.	EARTH ENV. & MAR.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENC. & LANG.	FOR. LANG.	OTHER	PROP.	EDUC.
TOTAL FEDERAL																		
1978	14.9*	9.5	9.9	13.7	9.2	9.1	12.2	32.1	38.4	8.9	24.3	16.8	13.9	4.8	14.2	8.3	12.7	5.4
1979	13.7	9.0	9.5	13.6	9.2	8.2	10.0	30.6	38.0	7.3	21.6	15.7	9.7	5.7	9.2	7.8	10.7	1.8
1980	13.4	8.5	11.7	14.2	7.7	7.9	12.0	29.4	33.6	6.9	20.0	13.9	13.8	3.1	7.9	7.1	11.1	7.4
1981	12.7	8.6	11.2	16.2	7.8	8.7	11.1	29.7	34.8	5.7	17.2	12.4	2.0	1.9	5.5	6.2	11.4	6.5
MEAN	13.7	8.9	10.6	14.4	8.5	7.9	11.3	30.4	35.9	7.1	20.7	11.7	11.5	4.0	9.3	7.3	11.5	7.3
NSF																		
1978	1.8	3.7	3.4	3.8	5.2	1.8	4.3	3.4	.5	.9	1.9	2.4	.1			.5	.2	.3
1979	1.8	4.2	3.6	5.4	5.7	3.1	3.2	3.2	1.4	.9	1.4	2.5	.1		.2	.8	.2	.2
1980	1.8	4.4	4.5	3.3	5.0	5.4	3.4	3.3	.9	.5	1.5	2.4	.9		.2	.5	.1	.2
1981	1.7	4.8	4.5	5.4	4.4	6.0	2.7	3.4	1.3	.6	1.1	1.8	.3			.6		.1
MEAN	1.8	4.2	4.0	4.3	5.1	4.4	3.4	3.4	1.1	.7	1.5	2.3	.4		.1	.6	.1	.2
NIH																		
1978	4.9	.6	3.9	.5	.5		2.0	23.0	26.8	.5	9.5	3.5	.3		.2	.2	2.0	.2
1979	4.6	.2	3.4	.3	1.0	.5	1.1	22.4	24.3	.6	9.1	2.7		.1		.1	1.7	.2
1980	4.5	.2	3.5	.3	.9	.5	1.4	20.7	22.4	.3	8.5	3.1	.1			.1	1.2	.2
1981	4.5	.1	3.3	.6	.8	.9	1.6	22.1	21.6	.2	6.9	2.3				.1	1.6	.3
MEAN	4.7	.3	3.5	.4	.8	.6	1.5	22.1	23.5	.4	8.4	2.9	.1			.1	1.7	.2
OTHER FEDERAL																		
1978	8.2	5.2	2.7	9.4	3.4	7.3	6.0	5.7	11.0	7.4	12.8	11.0	13.5	4.8	14.1	7.5	10.4	7.9
1979	.3	4.6	2.6	7.8	2.4	2.6	5.6	4.8	12.4	5.9	11.2	10.5	9.6	5.6	9.0	6.9	8.8	7.3
1980	7.1	3.9	3.7	10.6	1.8	2.0	7.2	5.2	10.3	6.0	10.1	8.4	12.7	3.1	7.7	6.5	9.8	7.0
1981	6.5	3.8	3.4	10.2	2.7	1.8	6.9	4.2	11.7	4.9	9.5	8.4	7.7	1.9	5.5	5.5	9.7	6.1
MEAN	7.3	4.4	3.1	9.5	2.6	2.9	6.4	5.0	11.3	6.0	10.8	9.6	11.0	3.9	9.2	6.6	9.7	7.1
NATIONAL FELLOWSHIP																		
1978	1.1	1.0	.6	.7	.3	.9	.9	.6	.7	1.5	.6	2.3	4.0	1.3	1.5	2.2	.9	.7
1979	1.0	.5	.5	.3	.9		.6	.9	1.1	1.3	.6	1.8	5.1	1.6	1.0	2.2	.6	.6
1980	1.1	.7	.6	.2	.3	1.5	.5	.5	.4	1.2	.7	2.4	3.7	2.0	1.4	2.9	.6	.7
1981	1.1	1.0	1.0	.6	.3	2.3	.5	.9	1.3	1.6	.7	2.4	3.7	.8	2.0	1.8	.4	.7
MEAN	1.1	.8	.7	.4	.4	1.2	.6	.7	.9	1.4	.6	2.2	4.1	1.5	1.5	2.3	.6	.7
TOTAL UNIVERSITY																		
1978	42.2	76.3	79.2	67.3	65.0	63.6	60.0	49.8	27.0	58.1	32.6	42.4	37.8	33.8	49.7	40.7	29.8	18.7
1979	42.8	77.7	79.0	66.7	70.1	59.8	61.8	48.2	26.9	56.1	32.9	43.2	40.1	54.9	55.8	39.3	34.1	19.0
1980	42.7	77.6	78.1	64.3	74.2	64.9	61.3	51.6	31.3	55.9	31.6	43.1	36.3	55.0	61.7	41.8	33.7	18.4
1981	42.8	78.7	76.9	62.2	73.6	61.9	63.7	49.7	28.7	59.0	30.7	46.0	39.9	57.2	62.8	44.0	32.1	17.8
MEAN	42.6	77.6	78.3	65.2	70.6	62.4	61.7	49.8	28.6	57.3	31.9	43.2	38.5	55.1	57.2	41.4	32.4	18.4
UNIVERSITY P'SHIP																		
1978	6.2	4.0	7.1	5.2	8.1	2.7	4.3	6.9	4.8	2.0	5.0	8.9	12.0	11.5	12.7	14.2	5.2	2.9
1979	5.9	4.5	6.7	6.5	7.2	2.1	3.9	6.3	4.4	2.4	5.2	8.9	11.8	10.0	12.2	12.7	6.0	2.8
1980	5.9	3.7	6.2	4.8	7.9	4.5	4.7	6.1	5.9	2.4	5.0	9.0	11.8	9.9	14.2	12.5	5.3	2.9
1981	5.9	4.2	5.8	5.0	7.8	3.7	5.0	6.0	3.0	2.5	4.0	9.8	14.4	10.8	12.8	14.4	6.4	2.5
MEAN	6.0	4.1	6.4	5.4	7.7	3.3	4.5	6.3	4.5	2.3	4.8	9.2	12.5	10.5	12.9	13.4	5.7	2.8
TEACHING A'SHIP																		
1978	19.0	22.2	37.3	15.1	48.2	21.8	9.5	21.6	10.0	5.5	16.0	22.2	22.7	41.7	35.8	24.2	17.7	10.0
1979	19.2	22.6	32.4	15.3	51.8	21.1	9.9	19.8	8.5	4.4	15.9	23.9	26.6	43.9	42.9	24.5	20.5	10.4
1980	19.2	21.8	33.3	13.2	56.8	14.9	10.4	21.3	10.7	4.2	15.5	24.0	22.6	44.9	46.0	27.1	20.6	10.2
1981	18.7	17.4	31.7	11.9	55.0	17.0	10.6	19.8	10.6	5.0	15.7	23.3	24.5	46.1	49.7	28.2	18.6	9.7
MEAN	19.0	21.0	33.6	13.9	52.8	18.2	10.1	20.6	10.0	4.8	15.8	23.4	24.1	44.0	43.4	26.0	19.3	10.1
RESEARCH A'SHIP																		
1978	17.0	30.1	34.8	46.9	8.7	39.1	46.2	21.3	12.2	50.7	11.5	11.3	3.1	.7	1.2	2.3	6.9	5.8
1979	17.7	30.7	39.9	44.9	11.2	36.6	48.0	22.2	13.9	49.3	11.7	10.4	1.7	1.0	.7	2.1	7.6	5.8
1980	17.4	32.0	38.7	46.3	9.3	43.5	46.1	24.1	14.7	49.4	11.0	10.2	1.8	.2	1.6	2.2	7.9	5.3
1981	18.3	37.1	39.4	45.3	10.8	41.3	48.1	23.9	15.1	51.5	10.9	10.8	.8	.3	.4	1.4	7.1	5.7
MEAN	17.6	32.4	38.3	45.8	10.0	40.9	47.1	22.9	14.1	50.2	11.3	10.7	1.9	.5	.9	2.0	7.4	5.6

*PERCENTAGE OF TOTAL IN FIELD AND YEAR REPORTING PRIMARY SOURCE.

TEXT TABLE C. CONTINUED

SUPPORT SOURCE	FIELD OF DOCTORATE															
	TOTAL ALL PLDS.	PHYS. ASTR.	CHEM.	EARTH ENV. & MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGRI. SCI.	PSYCH. SCI.	SOC. SCI.	HIST.	ENG. & AMER. LANG. & LIT.	FOR. LANG. LIT.	ALL OTHER HUMAN PROF. EDUC.
BUSINESS/INDUSTRY																
1978	.8	.9	.8	.7	1.9	1.8	3.3	.5	1.9	.5	.4	.6	.1	.1	.2	.4
1979	.9	1.1	1.4	.9	.7	2.6	4.8	.4	.9	.4	.2	.4	.4	.2	.4	1.8
1980	.9	1.0	1.2	1.2	.6	4.5	3.7	.9	1.2	.8	.4	.5	.3	.2	.1	1.2
1981	1.0	1.0	1.5	1.7	.4	4.1	3.4	.9	2.1	1.4	.2	.5	.2	.1	.7	1.0
MEAN	.9	1.0	1.3	1.1	1.0	3.5	3.8	.7	1.5	.8	.5	.5	.3	.1	.4	1.5
TOTAL SELF SUPPORT																
1978	33.9	8.8	6.3	13.7	16.4	20.0	15.9	12.9	24.3	15.0	36.0	29.4	37.3	36.2	28.6	40.1
1979	34.1	8.5	7.2	14.1	14.7	22.7	13.9	14.2	23.0	15.7	37.5	30.4	38.8	34.0	31.5	42.2
1980	34.3	8.5	6.2	14.2	12.2	16.8	14.1	12.8	23.6	15.4	40.0	30.6	39.3	35.1	26.6	40.0
1981	34.6	7.2	6.9	14.9	11.1	11.1	12.4	13.5	25.0	12.8	41.8	32.5	40.4	35.8	26.6	38.6
MEAN	34.2	8.3	6.7	14.2	13.7	18.4	14.0	13.4	24.5	14.7	38.9	30.7	38.9	35.3	28.4	40.2
OWN EARNINGS																
1978	23.3	4.6	2.1	8.1	9.6	13.6	11.9	4.4	15.3	9.9	21.5	18.5	19.1	18.6	17.1	23.0
1979	23.5	4.3	2.4	8.7	8.3	17.5	9.9	6.6	14.8	8.7	22.7	19.2	20.8	19.3	17.3	25.5
1980	24.0	4.0	1.9	9.3	7.1	12.9	10.3	5.7	14.7	8.5	24.5	19.3	22.2	18.4	16.0	23.6
1981	24.3	3.8	3.0	10.2	7.2	11.0	9.1	5.9	16.4	7.7	25.9	20.5	20.3	20.2	14.9	22.9
MEAN	23.8	4.2	2.4	9.1	8.1	13.7	10.3	5.6	15.4	8.7	23.7	19.4	20.6	19.1	16.4	23.8
SPOUSE'S EARNINGS																
1978	8.7	3.7	3.7	5.4	5.4	4.5	2.9	7.5	8.0	4.4	11.2	8.6	14.9	14.1	9.9	13.2
1979	8.7	4.1	4.7	4.8	4.4	5.2	2.7	7.1	9.0	5.9	11.6	8.9	15.3	11.6	11.9	12.8
1980	8.2	4.1	3.8	4.8	4.7	4.0	2.4	6.2	7.4	5.5	10.6	8.9	13.8	13.8	8.9	11.5
1981	8.0	2.8	3.8	4.5	3.2	3.7	2.1	6.4	7.2	4.2	11.8	8.3	14.1	13.0	9.7	11.8
MEAN	8.4	3.7	4.0	4.9	4.4	4.3	2.5	6.8	7.9	5.0	11.3	8.6	14.6	13.2	10.1	12.3
FAMILY CONTRIBUTIONS																
1978	1.9	.5	.5	.2	1.5	1.8	1.1	1.0	1.0	.7	3.3	2.4	3.3	3.4	1.7	3.9
1979	1.8	.2	.1	.7	2.0		1.4	.9	1.2	1.7	3.2	2.4	2.7	3.1	2.3	3.9
1980	2.1	.5	.5	.2	.5		1.4	.9	1.2	1.3	4.9	2.4	3.3	2.9	1.8	4.9
1981	2.2	.7	.1	.2	.8	.5	1.2	1.2	1.3	.9	4.1	3.8	6.0	2.6	2.0	3.9
MEAN	2.0	.5	.3	.3	1.2	.4	1.3	1.0	1.2	1.0	3.9	2.7	3.7	3.0	2.0	4.1
LOANS																
1978	1.2		.2	.4			.3	.1	.8	.8	2.6	1.2	1.8	.6	1.8	2.7
1979	1.3		.1	.3	.1		.1	.4	1.2	.1	3.5	1.3	1.5	1.0	.3	1.4
1980	1.5			.3	.5		.3	.5	1.2	.3	3.8	1.6	1.3	1.9	.8	1.6
1981	1.8		.1	.3			.4	.3	.9	.6	5.1	1.4	1.3	1.4	.4	2.7
MEAN	1.4		.1	.3	.1		.3	.3	1.0	.4	3.8	1.4	1.5	1.2	.8	2.1
OTHER SOURCES																
1978	5.8	3.6	3.1	4.0	6.9	4.5	7.5	4.0	7.0	15.2	3.6	7.2	5.1	3.2	3.9	5.7
1979	6.1	3.2	2.0	4.1	4.3	8.8	8.7	5.0	6.9	18.9	3.7	7.2	4.4	2.5	2.0	6.7
1980	6.2	3.7	2.1	5.7	4.7	4.0	8.1	4.5	8.8	19.5	3.5	7.8	5.2	2.9	1.4	6.5
1981	6.1	3.4	2.4	4.5	6.2	7.8	8.5	4.9	7.4	19.0	4.0	6.8	6.5	2.7	2.7	6.0
MEAN	6.0	3.5	2.4	4.5	5.5	6.5	8.2	4.6	7.6	18.2	3.7	7.3	5.2	2.9	2.5	6.2
PRIMARY SOURCE REPORTED																
1978	26625	928	1308	556	743	110	2095	2841	589	915	2585	2834	732	899	597	1391
1979	27481	983	1396	588	699	194	2216	2972	655	903	2701	2856	711	802	597	1468
1980	27621	882	1362	583	662	202	2202	3093	760	976	2735	2776	667	858	507	1374
1981	27769	902	1423	537	664	218	2255	3082	821	1025	3002	2741	601	731	549	1378
TOTAL	109496	3695	5489	2264	2768	724	8768	11988	2825	3819	11023	11207	2711	3290	2250	5611

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

Support Source by Sex and Field of Doctorate

While many support sources are reported with similar frequency by both men and women, there are some striking differences in the ways that these two groups finance their graduate education (see Figure 5). Women are far more likely to report financial support from the "self" sources--own earnings, spouse's earnings, and family contributions--than men. These categories are primary sources of graduate support for 45 percent of the women but only 30 percent of the men. The proportion of both sexes reporting teaching assistantships as their primary source in 1981 was nearly identical (18.7 percent and 18.5 percent respectively), while the number one source for men--research assistantships--is considered the primary source by over twice as many men (22 percent) as women (10 percent). Only small differences between the two groups can be seen in Figure 5 for the other support sources. The median time from graduate entrance to the completion of the doctorate is somewhat longer for women than for men (see Table 2, pp. 32-37): this difference may account for the greater use of personal resources by women than men to finance their graduate education.

Table D provides source of support data by both

field and sex, which allows the reader a control for the concentration of men or women in fields where particular sources of support are the most frequently reported, such as "own earnings" in the field of education. When such a field-specific comparison is made, a number of exceptions to the overall pattern shown in Figure 5 are revealed, particularly in science fields.

In fact, of the physical science and mathematics fields, only earth science follows this general pattern, but even in this field, women report about twice the proportion of support from teaching assistantships as men (21 percent and 11 percent respectively), and 11 percent of men Ph.D.'s and no women Ph.D.'s report primary support from other federal sources. As previously mentioned, much of the support in the "other federal" category comes from military-related sources--the G.I. Bill or educational programs of the military services. In physics, chemistry, and mathematics men and women report support from research assistantships and the self-support sources with nearly equal frequency.

Doctorate recipients in engineering and computer science follow the overall support pattern, with men reporting greater support from research assistantships and women from the self-support

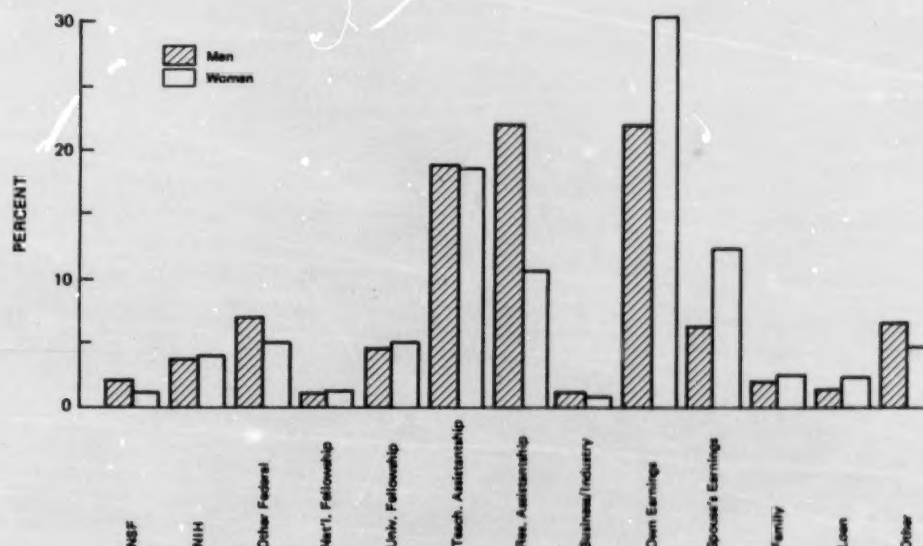


FIGURE 5
Primary Source of Support of 1981 Doctorate Recipients by Sex.
SOURCE: NRC, Office of Scientific and Engineering Personnel,
Doctorate Records File.

TEXT TABLE D
PRIMARY SOURCE OF SUPPORT OF 1981 DOCTORATE RECIPIENTS BY SEX

16

SUPPORT SOURCE	FIELD OF DOCTORATE																	
	TOTAL ALL FLDS.	PHYS& ASTR.	CHEM.	EARTH ENV. & MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	ENG. & AMER. LANG.	FOR. LANG.	ALL OTHER HUMAN ITIES	PROF. FLDS.	EDUC.
TOTAL FEDERAL																		
MEN	13.4*	8.9	11.7	17.3	8.7	8.8	11.3	28.9	35.2	5.8	18.4	12.2	9.2	3.4	7.5	7.0	10.6	8.2
WOMEN	11.1	5.9	3.6	5.8	2.9	8.3	6.7	31.3	33.5	4.6	16.4	12.8	4.8	.5	3.7	4.9	13.2	4.5
MEAN	12.7	8.6	11.2	16.2	7.8	8.7	11.1	29.7	34.6	5.7	17.5	12.4	8.0	1.9	5.5	6.2	11.4	6.5
NSF																		
MEN	1.9	4.9	4.6	5.4	5.0	6.2	2.6	3.3	1.3	.6	1.0	1.8	.2			.3		.1
WOMEN	1.1	2.9	3.8	5.2	1.0	4.2	3.4	3.2	1.5	.8	1.3	1.7	.6			1.0		.1
MEAN	1.7	4.8	4.5	5.4	4.4	6.0	2.7	3.4	1.3	.6	1.1	1.8	.3			.6		.1
NIH																		
MEN	4.4		3.4	.6	.9	.5	1.6	20.9	22.3	.1	7.0	1.8				.1	.8	.1
WOMEN	4.9	1.5	2.9			4.2	1.1	25.0	20.0	.8	6.7	3.5				.2	3.4	.4
MEAN	4.5	.1	3.3	.6	.8	.9	1.6	22.1	21.6	.2	6.9	2.3				.1	1.6	.3
OTHER FEDERAL																		
MEN	7.1	4.0	3.7	11.3	2.9	2.1	7.1	4.7	11.5	5.1	10.5	5.7	9.0	3.4	7.5	6.5	9.7	8.0
WOMEN	5.0	1.5	1.9		1.9		2.2	3.0	12.0	3.1	8.3	7.5	4.2	.5	3.7	3.7	9.8	4.0
MEAN	6.5	3.3	3.4	10.2	2.7	1.8	6.9	4.2	11.7	4.9	9.5	8.4	7.7	1.9	5.5	5.5	9.7	6.1
NATIONAL FELLOWSHIP																		
MEN	1.0	1.0	1.0	.6	.2	2.6	.4	.8	1.3	1.7	.5	2.2	3.7	.6	2.7	1.8	.1	.5
WOMEN	1.3	1.5	1.0		1.0		2.2	1.2	1.5	.8	.9	3.0	3.6	1.1	1.4	1.8	1.1	.9
MEAN	1.1	1.0	1.0	.6	.3	2.3	.5	.9	1.3	1.6	.7	2.4	3.7	.8	2.0	1.6	.5	.7
TOTAL UNIVERSITY																		
MEN	46.4	78.8	76.0	61.6	73.3	62.4	63.7	50.9	33.0	58.3	32.3	44.6	37.5	60.8	61.2	44.4	33.2	16.5
WOMEN	35.0	77.9	81.9	67.3	75.7	55.3	62.9	46.8	20.4	63.8	28.6	42.3	46.4	53.7	64.3	43.2	29.6	19.3
MEAN	42.8	78.7	76.9	62.2	73.6	61.9	63.7	49.7	28.7	59.0	30.7	44.0	39.9	57.2	62.8	44.0	32.1	17.8
UNIVERSITY F'SHIP																		
MEN	5.8	4.2	5.7	4.5	8.9	4.1	5.0	5.7	3.5	3.5	3.9	9.9	13.1	12.4	14.5	13.4	6.6	2.1
WOMEN	6.0	4.4	6.2	2.6	1.9		5.6	6.9	2.2	3.1	4.2	9.7	18.7	9.3	11.2	16.2	5.8	3.0
MEAN	5.9	4.2	5.8	5.0	7.8	3.7	5.0	6.0	3.0	2.5	4.0	9.8	14.6	10.8	12.8	14.4	6.4	2.5
TEACHING A'SHIP																		
MEN	18.7	17.4	31.1	10.9	53.5	15.5	10.4	20.0	12.6	4.8	17.0	23.3	23.4	48.5	46.3	29.7	20.2	8.9
WOMEN	18.5	17.6	35.2	21.2	63.1	29.2	13.5	19.5	6.5	6.2	14.1	23.6	27.1	43.9	52.7	25.6	15.1	10.6
MEAN	18.7	17.4	31.7	11.9	55.0	17.0	10.6	19.8	10.6	5.0	15.7	23.3	24.5	46.1	49.7	28.2	18.6	9.7
RESEARCH A'SHIP																		
MEN	21.8	57.2	39.2	46.2	10.9	42.8	48.3	25.3	16.8	51.1	11.4	11.5	.9		.4	1.3	6.4	5.6
WOMEN	10.4	55.9	40.5	36.5	10.7	29.2	43.8	20.4	11.6	54.6	10.5	9.0	.6	.5	.3	1.4	8.7	5.8
MEAN	18.3	57.1	39.4	45.3	10.8	41.3	48.1	23.9	15.1	51.5	10.9	10.8	.8	.3	.4	1.6	7.1	5.7

*PERCENTAGE OF TOTAL IN FIELD AND SEX REPORTING PRIMARY SOURCE.

TEXT TABLE D. CONTINUED

SUPPORT SOURCE	FIELD OF DOCTORATE														ENG. &	FOR.	ALL	PROF.	EDUC.
	TOTAL ALL FLDS.	PHYS. & AS. & R.	CHEM.	EARTH ENV. & MAR. SCI.	MATH.	COMP. SCI.	ENGR.	BIO. SCI.	MED. SCI.	AGR. SCI.	PSYCH.	SOC. SCI.	HIST.	AMER. LANG.	LANG.	OTHER HUMAN ITIES			
BUSINESS/INDUSTRY																			
MEN	1.1	1.0	1.6	1.2	.5	4.1	3.3	.8	1.5	1.3	.2	.5	.2			.6	2.3	.6	
WOMEN	.8	1.5	1.4	5.8	1.0	4.2	6.7	1.2	3.3	1.5	.1	.4		.3		1.0	1.1	.6	
MEAN	1.0	1.0	1.5	1.7	.6	4.1	3.4	.9	2.1	1.4	.2	.5	.2	.1		.7	1.9	.6	
TOTAL SEL. SUPPORT																			
MEN	29.8	7.3	7.0	14.4	10.9	14.4	12.3	13.5	19.6	12.6	40.2	31.4	40.9	31.5	24.3	37.2	43.9	63.8	
WOMEN	44.9	5.9	6.2	19.2	12.6	20.8	14.6	13.4	35.6	13.8	44.0	35.5	39.2	39.9	28.6	41.2	47.4	67.6	
MEAN	34.6	7.2	6.9	14.9	11.1	15.1	12.4	13.5	25.0	12.8	41.8	32.5	40.4	35.8	26.6	38.6	45.0	65.6	
OWN EARNINGS																			
MEN	21.7	4.0	2.8	9.3	7.1	11.3	9.1	6.0	11.9	7.6	26.0	20.2	21.6	20.8	15.3	23.6	30.8	56.5	
WOMEN	30.1	1.5	3.2	13.5	7.8	8.3	7.9	5.6	25.5	8.5	25.9	21.3	16.9	19.7	14.6	21.7	28.8	51.6	
MEAN	24.3	3.8	3.0	10.2	7.2	11.0	9.1	5.9	16.4	7.7	25.9	20.5	20.3	20.2	14.9	22.9	30.2	54.2	
SPOUSE'S EARNINGS																			
MEN	6.1	2.6	4.0	4.3	2.9	2.6	2.0	6.4	6.4	4.4	10.3	7.3	12.4	8.5	7.8	10.4	10.3	5.6	
WOMEN	12.2	4.4	2.4	5.8	4.9	12.5	4.5	6.2	8.7	3.1	13.7	10.9	18.7	17.3	11.2	14.1	15.3	14.1	
MEAN	8.0	2.8	3.8	4.5	3.2	3.7	2.1	6.4	7.2	4.2	11.8	8.3	14.1	13.0	9.7	11.8	11.9	9.6	
FAMILY CONTRIBUTIONS																			
MEN	2.0	.7	.2	.2	.9	.5	1.2	1.1	1.3	.7	3.9	3.9	6.9	2.3	1.2	3.1	2.7	1.7	
WOMEN	2.7						2.2	1.7	1.5	2.3	4.4	3.4	3.6	2.9	2.7	5.3	3.2	2.0	
MEAN	2.2	.7	.1	.2	.8	.5	1.2	1.2	1.3	.9	4.1	3.8	6.0	2.6	2.0	3.9	2.9	1.8	
LOANS																			
MEN	1.6		.1		.4		.5	.3	.9	.7	4.9	1.5	1.6	.8	.8	2.9	.6	3.2	
WOMEN	2.3							.3	.7		5.5	1.2	.6	1.9		2.3	1.6	2.8	
MEAN	1.8		.1		.3		.4	.3	.9	.6	5.1	1.4	1.3	1.4	.4	2.7	.9	3.1	
OTHER SOURCES																			
MEN	6.7	3.1	2.6	4.7	6.1	7.7	8.5	4.8	8.6	19.6	3.4	7.6	6.9	2.0	3.5	6.2	9.4	7.2	
WOMEN	4.7	7.4	1.0	1.9	6.8	8.3	6.7	5.2	5.1	15.4	4.6	4.8	5.4	2.7	2.0	5.7	6.1	4.2	
MEAN	6.1	3.4	2.4	4.5	6.2	7.8	8.5	4.9	7.4	19.0	4.0	6.8	6.5	2.7	2.7	6.0	8.4	5.8	
PRIMARY SOURCE REPORTED																			
MEN	19057	834	1213	485	561	194	2166	2189	546	895	1683	1998	475	555	255	890	843	3490	
WOMEN	8712	68	210	52	103	24	89	893	275	130	1319	743	166	376	294	489	378	3097	
TOTAL	27769	902	1423	537	664	218	2255	3082	821	1025	3002	2741	601	731	549	1378	1221	6587	

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE RECORDS FILE.

sources. In these two fields, however, women are more frequent recipients of support from teaching assistantships.

Because of the generally even distribution of support from research assistantships among men and women in the biological, medical, and agricultural sciences and the low proportion of women reporting support from spouse's earnings, Ph.D.'s in those fields also do not follow the overall support pattern. The considerably higher proportion of women (26 percent) than men (12 percent) in the medical sciences reporting own earnings as their primary source is likely to be a function of their concentration in nursing and public health fields (see Table 1, page 26).

In contrast to the aforementioned science and engineering fields, the distribution of support for men and women doctorate recipients in the social sciences, humanities, professional fields, and education closely follows the overall pattern. In each of these fields, women report spouse's earnings with considerably greater frequency than do men. This relationship is particularly strong in education, where women are two and one-half times more likely to report spouse's earnings as their primary source than are men. Other areas of support where men and women differ significantly include NIH support, where the high proportion of women in the professional fields reporting this source is a product of the large number of women in social work and the speech and hearing sciences (see Table 1, page 27), and "other federal" support in the field of education, where the greater frequency of men reporting this source is the result of their use of benefits under the G.I. Bill.

Support Source by Racial/Ethnic Group and Field of Doctorate

Data on primary source of support by racial/ethnic group for selected fields over the 1979 to 1981 period are presented in Text Table E. Because of the small number of minority doctorate recipients--particularly in the American Indian and Hispanic categories--responses for the past three years have been combined so that an analysis by field of doctorate could be performed. Fields were selected to illustrate the patterns of support typical of each of the major discipline areas. As

a consequence of both the high concentration of temporary visa holders among Asian doctorate recipients (see Table 5, pp. 40-41) and the probability that holders of temporary visas will leave the U. S. following completion of studies, this presentation includes only U. S. citizens and non-U. S. citizens residing here on permanent (immigrant) visas.

Over all fields, patterns of support specific to certain racial/ethnic groups were found. Most striking is the dominance of support from university sources for Asian doctorate recipients. In each of the seven fields shown in Table E, Asian Ph.D.'s display the greatest frequency of support from universities. White and Hispanic doctorate recipients reported the second and third most frequent support from university sources. The greatest frequency of primary support by the self sources--own earnings, spouse's earnings, and family contributions--was reported by American Indian Ph.D.'s. Whites, American Indians, and Hispanics showed the greatest support from federal sources. Black Ph.D.'s reported the greatest use of loans and the least overall support from university sources. Blacks, along with Hispanics, also indicated the greatest use of national fellowships, particularly in the social sciences and humanities. The substantial differences between support patterns for the racial/ethnic groups can be seen by the fact that Asian Ph.D.'s reported more than twice as much support from university sources as did American Indians and blacks, and the latter two groups reported self-support over two times as frequently as Asians.

There are, however, several exceptions to the patterns described above. In the biological and medical sciences, psychology, and humanities, blacks, rather than whites, American Indians, or Hispanics, reported the greatest frequency of federal support. In the physical sciences and education, Hispanics reported a considerably higher proportion of support from federal sources than did American Indians or whites. Of particular interest is the over one-fifth of black doctorate recipients in engineering and computer sciences who noted support from business and industry sources. Many of these Ph.D.'s were supported in graduate school by their employing companies.

TEXT TABLE E
PRIMARY SOURCE OF SUPPORT OF 1979-1981 DOCTORATE RECIPIENTS BY RACIAL/ETHNIC
GROUP AND FIELD

SUPPORT SOURCE	FIELD OF DOCTORATE							
	TOTAL ALL FLOS.	PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMAN- ITIES	EDUC.
FEDERAL								
AMERICAN INDIAN	14.5	7.7	25.0	29.0	20.0	17.9	5.1	13.7
ASIAN	10.3	7.6	6.0	22.8	19.6	8.7	3.8	8.7
BLACK	13.4	13.0	10.9	35.1	25.9	12.3	7.9	8.7
HISPANIC	14.4	13.5	6.6	19.6	19.3	15.2	3.8	19.5
WHITE	14.7	11.7	16.4	34.0	19.8	15.8	7.3	7.0
NATIONAL FELLOWSHIP								
AMERICAN INDIAN	2.8			3.2	2.9		5.1	3.6
ASIAN	.9	.5	.9	1.0	1.8	.9	1.9	.8
BLACK	3.5	9.0	3.6	4.5	6.6	12.3	15.7	2.3
HISPANIC	5.5	.9	1.6	3.7	8.7	12.4	6.2	4.2
WHITE	.7	.4	.6	.6	.3	1.3	1.8	.4
UNIVERSITY								
AMERICAN INDIAN	29.5	69.2	33.3	38.7	22.9	39.3	43.7	12.9
ASIAN	62.6	83.3	74.8	55.1	38.4	52.4	54.8	21.7
BLACK	24.2	57.0	41.8	31.8	28.3	37.9	36.1	14.8
HISPANIC	36.0	67.2	55.7	55.1	27.3	34.5	46.7	15.5
WHITE	41.5	74.2	55.6	44.8	31.8	44.2	47.6	18.4
BUSINESS/INDUSTRY								
AMERICAN INDIAN	.6					3.6		.7
ASIAN	2.2	1.6	4.1	2.1		.9	.6	.4
BLACK	1.5	8.0	23.6	1.9	.3	.7	1.1	.8
HISPANIC	1.4	5.2	3.3	.9	.7	.7	1.0	.5
WHITE	.9	1.1	5.1	.8	.2	.3	.2	.5
SELF								
AMERICAN INDIAN	47.7	15.4	33.3	29.0	42.9	39.3	39.5	64.0
ASIAN	19.9	5.1	12.3	14.2	31.3	33.8	33.8	56.7
BLACK	45.5	9.0	12.7	20.8	28.3	28.6	29.3	62.7
HISPANIC	34.7	8.6	19.7	15.9	34.0	24.8	36.7	51.6
WHITE	37.7	11.1	19.3	16.6	40.8	33.9	38.4	67.6
LOANS								
AMERICAN INDIAN	2.2		8.3		5.7		2.6	2.2
ASIAN	1.1	.2	.4	.2	6.3	.9	2.5	4.7
BLACK	4.1			1.3	5.5	3.0	2.5	5.1
HISPANIC	1.8		1.6		4.7	1.4	1.4	2.6
WHITE	1.5	.1	.2	.5	4.2	1.4	1.4	2.3
OTHER								
AMERICAN INDIAN	2.8	7.7			5.7			2.9
ASIAN	3.0	1.6	1.5	4.7	2.7	2.6	2.5	7.1
BLACK	5.8	4.0	7.3	4.5	5.2	5.2	7.5	5.6
HISPANIC	6.2	2.6	11.5	4.7	5.3	11.0	4.2	6.1
WHITE	3.0	1.4	2.8	2.7	3.0	3.0	3.2	3.8
PRIMARY SOURCE REPORTED								
AMERICAN INDIAN	325	26	12	31	35	28	39	139
ASIAN	2823	564	803	574	112	231	157	254
BLACK	2858	100	55	154	290	269	280	1532
HISPANIC	1365	116	61	107	150	145	289	426
WHITE	62992	7683	3693	9207	7442	6184	8598	15609

*PERCENTAGE OF TOTAL IN FIELD AND RACE REPORTING PRIMARY SOURCE.

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL, DOCTORATE
RECORDS FILE.

Support Source by Carnegie Classification of
Doctorate-Granting Institution

The Carnegie Classification System,^{4/} developed by the Carnegie Commission on Higher Education, is used here to compare the patterns of student support found in various categories of doctorate-granting institutions. The Carnegie System is based largely on statistics on level of federal support and number of degrees awarded. The following Carnegie categories are used in Figure 6 and Text Table F:

Research Universities I - The 50 leading universities by federal financial support of academic science provided they awarded at least 50 Ph.D.'s in 1973-74.

Research Universities II - Included in the 100 leading institutions in federal support, awarded at least 50 Ph.D.'s in 1973-74 or among the top 50 Ph.D.-granting institutions from 1966 to 1975.

Doctorate-Granting I and II - Awarded at least 10 Ph.D.'s in 1973-74 or one of a few new institutions where expansion of the doctoral program is anticipated.

All Other Classified - Includes all other doctorate-granting institutions. These are primarily, but not exclusively, professional schools in education, medicine, theology, and psychology.

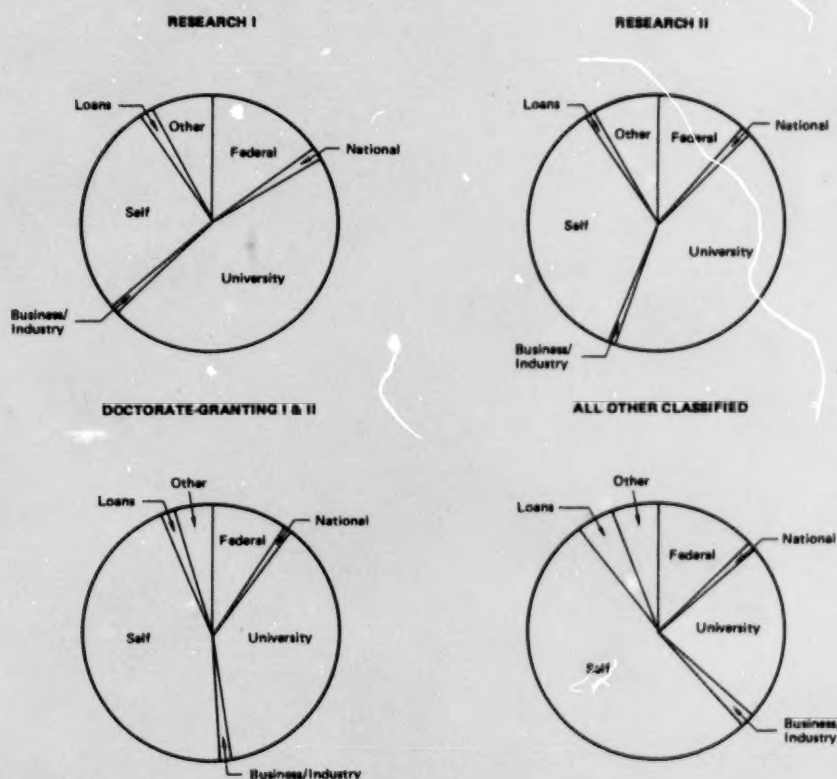


FIGURE 6
Primary Source of Support by Carnegie Classification of Doctorate-Granting Institution, 1981. SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

^{4/}Carnegie Commission on Higher Education, A Classification of Institutions of Higher Education. Berkeley: Carnegie Foundation for the Advancement of Teaching, 1978.

As can be seen in Figure 6, the main difference between the four institutional categories is the variation in the proportion of doctorate recipients reporting support from university or "self" sources. While nearly one-half of the graduates of Research I institutions report support from their universities, 44 percent of Research II, 38 percent of Doctorate-Granting I and II, and 23 percent of the graduates of All Other Classified institutions report university support as their primary source. Conversely, the proportion of doctorate recipients reporting support from the "self" sources increases over the four institutional groups, from 27 percent of the Research I graduates to 36 percent of Research II, 45 percent of the Doctorate-Granting I and II, and 52 percent of All Other Classified institutions. Support for Ph.D.'s was about equal for the other sources included in Figure 6 except for federal, where Research I and All Other Classified universities show considerable support from NSF and NIH in the physical, biological, and medical sciences.

Text Table F shows that when broken down by both field and detailed source of support, the main differences among the Carnegie institutional categories continue to be found in the distribution of university and self-support. For instance, graduates of Research I institutions report university fellowships and research assistantships with a greater frequency than graduates from the other three institutional categories, and they are third, behind Ph.D.'s from Research II and Doctorate-Granting I and II, in support from teaching assistantships. This difference is particularly large in the physical science, engineering and computer science, and biological and medical science fields, where graduates of Research I institutions report the least support from teaching assistantships.

With the exception of psychology, Research University I graduates had the lowest proportion of support from own earnings over all fields. This utilization of sources other than own earnings was particularly prevalent in the fields of physical sciences, social sciences, and humanities. Again, except for psychology, graduates of All Other Clas-

sified universities showed the greatest support from own earnings. Response to the other two self-support categories--spouse's earnings and family contributions--tended to follow a similar pattern, with Other Classified graduates reporting nearly the greatest frequency of self-support, and Research I graduates the least.

Graduates of Doctorate-Granting I and II universities in engineering and computer science reported the highest frequency of support from business or industrial firms. Nearly 16 percent of psychology graduates from All Other Classified universities reported primary support from loans, about three times the frequency for graduates of any of the other Carnegie institutional categories.

Primary Source of Support in Graduate School--A Summary

Data have been presented here on a number of factors that are associated with the sources of support used by graduate students to finance their doctoral education--year and field of Ph.D., sex, racial/ethnic group, and institutional classification. The stability of support patterns over the four-year period (1978-1981) was one of the few exceptions to our general finding that each of the above variables exerted a powerful influence on graduate student support patterns. Despite strong overall trends, each cohort of Ph.D.'s was found to exhibit a singular pattern of response to the primary support question. This was particularly true in the examination of differences among fields, where for example, own earnings--the leading primary source over all disciplines--was one of the least frequently reported sources by Ph.D.'s in the physical and biological sciences. Even within the physical sciences, there was considerable variability in concentration of support from certain sources, with approximately one-half of physics and earth sciences Ph.D.'s reporting primary source from research assistantships while 55 percent of the 1981 Ph.D.'s in mathematics reported teaching assistantships as their primary source.

TEXT TABLE F
PRIMARY SOURCE OF SUPPORT FOR 1981 DOCTORATE RECIPIENTS BY CARNEGIE CLASSIFICATION
OF DOCTORATE-GRANTING INSTITUTIONS

SUPPORT SOURCE	FIELD OF DOCTORATE							
	TOTAL ALL FLDS.	PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMAN- ITIES	EDUC.
<u>TOTAL FEDERAL</u>								
RESEARCH UNIVERSITY I	15.0*	11.3	11.4	38.6	23.4	14.2	6.4	6.3
RESEARCH UNIVERSITY II	11.0	8.4	10.5	23.3	17.4	9.2	4.9	7.5
DOCTORATE-GRANTING I & II	8.9	9.9	8.8	13.3	13.5	9.9	4.2	5.5
ALL OTHER	12.2	15.6	11.4	27.4	9.2	15.2	1.9	6.7
MEAN	12.7	10.7	10.9	30.7	17.5	12.4	5.5	6.5
<u>NSF</u>								
RESEARCH UNIVERSITY I	2.5	5.6	3.0	4.1	2.4	2.9	.4	.1
RESEARCH UNIVERSITY II	.7	2.6	1.6	1.4	.8	.1	.1	.1
DOCTORATE-GRANTING I & II	1.0	4.1	1.8	2.7	.3	.5	.2	.1
ALL OTHER	.7	4.4	.8	1.5				
MEAN	1.7	4.7	3.0	3.0	1.1	1.8	.3	.1
<u>NIH</u>								
RESEARCH UNIVERSITY I	6.1	1.6	2.0	28.4	10.1	3.1	.1	.4
RESEARCH UNIVERSITY II	3.4	1.2	.4	16.4	7.5	1.3		
DOCTORATE-GRANTING I & II	1.6	1.2	.6	7.0	4.1	.5		
ALL OTHER	5.2	5.0	1.6	18.7	2.8	3.0		.9
MEAN	4.5	1.6	1.5	22.0	6.9	2.3	.1	.3
<u>OTHER FEDERAL</u>								
RESEARCH UNIVERSITY I	6.4	4.2	5.6	6.1	10.9	8.2	5.8	5.8
RESEARCH UNIVERSITY II	6.9	4.6	8.5	5.5	9.2	7.8	4.8	7.4
DOCTORATE-GRANTING I & II	6.3	4.6	6.5	3.6	9.2	9.9	4.0	5.5
ALL OTHER	6.3	6.3	8.9	7.2	6.4	12.1	1.9	5.8
MEAN	6.5	4.4	6.4	5.8	9.5	8.4	5.1	6.1
<u>NATIONAL FELLOWSHIP</u>								
RESEARCH UNIVERSITY I	1.3	.9	.6	1.0	1.1	2.5	2.2	1.0
RESEARCH UNIVERSITY II	1.0	.4	.7	.7	1.1	1.8	2.1	.7
DOCTORATE-GRANTING I & II	.8	.9	.9	1.3	.1	3.0	1.0	.4
ALL OTHER	.8	.6	.8	1.5	.4	3.0	1.3	.4
MEAN	1.1	.8	.6	1.0	.7	2.4	2.0	.7
<u>TOTAL UNIVERSITY</u>								
RESEARCH UNIVERSITY I	47.5	75.6	64.6	40.3	32.6	45.8	51.9	23.1
RESEARCH UNIVERSITY II	43.7	76.4	61.0	53.8	40.5	44.8	46.9	18.2
DOCTORATE-GRANTING I & II	37.7	72.4	62.4	58.6	27.7	41.3	49.1	15.9
ALL OTHER	22.8	59.4	62.6	38.3	11.0	21.2	34.4	4.0
MEAN	42.8	74.5	63.5	45.3	30.7	44.0	49.4	17.8
<u>UNIVERSITY FELLOWSHIP</u>								
RESEARCH UNIVERSITY I	6.6	5.6	4.2	4.3	5.0	11.7	15.7	2.5
RESEARCH UNIVERSITY II	5.0	4.9	4.9	6.6	4.4	7.2	8.7	2.1
DOCTORATE-GRANTING I & II	5.5	6.8	7.4	5.7	3.3	8.4	12.5	3.5
ALL OTHER	4.4	5.0	6.5	8.0	2.1	4.0	12.5	1.1
MEAN	5.9	5.6	4.9	5.4	4.0	9.8	13.3	2.5
<u>TEACHING ASSISTANTSHIP</u>								
RESEARCH UNIVERSITY I	18.1	25.3	9.1	13.0	15.6	22.4	35.3	11.3
RESEARCH UNIVERSITY II	22.1	36.3	10.3	25.2	22.9	26.8	37.1	10.6
DOCTORATE-GRANTING I & II	19.2	36.1	17.1	25.7	14.5	24.5	35.8	9.7
ALL OTHER	10.7	28.1	23.6	18.0	3.5	9.1	21.9	2.1
MEAN	18.7	29.4	11.1	17.9	15.7	23.3	35.2	9.7
<u>RESEARCH ASSISTANTSHIP</u>								
RESEARCH UNIVERSITY I	22.7	44.7	51.3	23.0	12.0	11.6	.9	9.4
RESEARCH UNIVERSITY II	16.7	35.2	45.7	22.0	13.2	10.8	1.0	5.5
DOCTORATE-GRANTING I & II	13.0	29.6	37.9	27.2	9.9	8.4	.8	2.7
ALL OTHER	7.7	26.3	32.5	12.2	5.3	8.1		.8
MEAN	18.3	39.4	47.5	22.0	10.9	10.8	.9	5.7

*PERCENTAGE OF TOTAL IN FIELD AND INSTITUTIONAL CATEGORY REPORTING PRIMARY SOURCE.

TEXT TABLE F. CONTINUED

SUPPORT SOURCE	FIELD OF DOCTORATE							
	TOTAL ALL FLDS.	PHYS. SCI.	ENGR. AND COMP. SCI.	BIO. AND MED. SCI.	PSYCH.	SOC. SCI.	HUMAN- ITIES	EDUC.
<u>BUSINESS/INDUSTRY</u>								
RESEARCH UNIVERSITY I	1.0	.8	2.6	1.1	.2	.7	.2	.6
RESEARCH UNIVERSITY II	.7	1.2	2.5	.6	.2	.1	.7	.4
DOCTORATE-GRANTING I & II	1.3	1.7	8.5	2.1	.2		.4	.6
ALL OTHER	1.7	5.6	4.9	1.7		1.0		1.1
MEAN	1.0	1.2	3.5	1.2	.2	.5	.4	.6
<u>TOTAL SELF SUPPORT</u>								
RESEARCH UNIVERSITY I	27.2	7.4	11.4	13.4	35.4	27.7	32.1	59.3
RESEARCH UNIVERSITY II	35.7	10.4	17.0	16.0	33.4	36.6	39.0	63.9
DOCTORATE-GRANTING I & II	44.8	11.1	12.1	19.2	49.1	40.6	41.2	71.7
ALL OTHER	52.4	15.6	14.6	23.7	60.8	48.5	55.6	76.5
MEAN	34.6	9.0	12.7	15.9	41.8	32.5	36.3	65.6
<u>OWN EARNINGS</u>								
RESEARCH UNIVERSITY I	18.3	3.5	8.1	8.2	22.7	16.7	16.6	47.6
RESEARCH UNIVERSITY II	24.5	6.8	12.8	6.2	19.8	21.7	21.4	51.6
DOCTORATE-GRANTING I & II	33.3	6.8	8.5	8.4	32.7	29.0	27.9	59.5
ALL OTHER	40.2	11.9	13.8	10.9	29.0	38.4	38.1	69.2
MEAN	24.3	5.1	9.3	8.1	25.9	20.5	20.5	54.2
<u>SPOUSE'S EARNINGS</u>								
RESEARCH UNIVERSITY I	7.2	3.6	2.5	4.2	10.0	7.9	11.6	10.0
RESEARCH UNIVERSITY II	8.6	3.2	2.7	7.9	11.0	10.0	13.0	10.2
DOCTORATE-GRANTING I & II	9.2	3.9	1.5	9.3	12.9	7.2	11.6	10.3
ALL OTHER	9.0	3.1		11.7	16.6	7.1	15.0	5.7
MEAN	8.0	3.5	2.3	6.5	11.8	8.3	12.1	9.6
<u>FAMILY CONTRIBUTIONS</u>								
RESEARCH UNIVERSITY I	1.8	.4	.8	1.0	2.7	3.1	3.9	1.7
RESEARCH UNIVERSITY II	2.5	.4	1.6	1.9	2.6	5.0	4.6	2.2
DOCTORATE-GRANTING I & II	2.3	.3	2.1	1.5	3.6	4.5	1.7	1.8
ALL OTHER	3.3	.6	.8	1.1	15.2	3.0	2.5	1.6
MEAN	2.2	.4	1.1	1.3	4.1	3.8	3.7	1.8
<u>LOANS</u>								
RESEARCH UNIVERSITY I	1.5	.1	.4	.4	3.4	1.4	2.4	3.5
RESEARCH UNIVERSITY II	1.4	.1	.4	.2	3.5	1.3	1.1	2.4
DOCTORATE-GRANTING I & II	1.9		.3	.8	5.1	.5	.8	2.0
ALL OTHER	4.4		.8	.4	15.9	5.1	.6	5.3
MEAN	1.8	.1	.4	.4	5.1	1.4	1.7	3.1
<u>OTHER SOURCES</u>								
RESEARCH UNIVERSITY I	6.5	3.8	9.1	5.3	3.9	7.7	4.8	6.2
RESEARCH UNIVERSITY II	6.5	3.2	7.8	5.5	4.1	6.1	5.3	6.8
DOCTORATE-GRANTING I & II	4.7	4.1	7.1	4.6	4.3	4.7	3.3	3.9
ALL OTHER	5.7	3.1	4.9	7.0	2.8	6.1	6.3	6.1
MEAN	6.1	3.7	8.4	5.4	4.0	6.8	4.8	5.8
<u>PRIMARY SOURCE REPORTED</u>								
RESEARCH UNIVERSITY I	13817	2084	1564	2092	1071	1555	1805	2459
RESEARCH UNIVERSITY II	6466	694	446	877	665	683	813	1674
DOCTORATE-GRANTING I & II	5280	588	340	474	983	404	481	1698
ALL OTHER	2206	160	123	460	283	99	160	756

SOURCE: NRC, OFFICE OF SCIENTIFIC AND ENGINEERING PERSONNEL,
DOCTORATE RECORDS FILE.

EXPLANATION OF FIVE BASIC TABLES

Table 1 Number of Doctorate Recipients by Sex and Subfield, 1981

Table 1A Number of Doctorate Recipients by Citizenship, Racial/Ethnic Group, and Subfield, 1981

Table 2 Statistical Profile of Doctorate Recipients by Sex and by Field of Doctorate, 1981 (three tables)

Table 3 Percentage of 1981 Doctorate Recipients by Sources of Support in Graduate School, by Sex and Summary Field

Table 4 Number of 1981 Doctorate Recipients by Sex, State of Doctoral Institution, and Summary Field

Table 5 Statistical Profile of Doctorate Recipients by Racial or Ethnic Group and U.S. Citizenship Status, 1981

Table titles and headings are generally self-explanatory, but a few terms need special definition or explanation. The survey questionnaire is reproduced on pages 42-43.

Tables 1 and 1A

Turning to the standard tables presented from year to year in these reports, we display in Tables 1 and 1A 1981 data by subfield of doctorate, corresponding to the fields specified in the Specialties List on page 44. The "general" field categories, e.g., "chemistry, general," contain individuals who either received the doctorate in the general subject area or who did not specify a particular fine field. The "other" field categories, e.g., "chemistry, other," include those individuals whose specified doctoral discipline was not listed in the Specialties List.

Table 2

There are three two-page tables; one contains data about all doctorate recipients in 1981 and the other two present data by sex. This table provides data by field and also by broader summary field. Refer to the inside of the back cover for the codes included in each broad field and to the Specialties List on page 44 for the codes and names of each subfield. Definitions are as follows:

"Median Age at Doctorate"--One-half received the doctorate at this age or younger.

"Percentage with Master's"--This indicates the percentage of doctorate recipients in a field who received a master's degree in any field before taking the doctorate.

"Median Time Lapse"--"Total Time" refers to total calendar time elapsed between the year of baccalaureate and the year of doctorate; "Registered Time" refers to the total time registered in a university between baccalaureate and doctorate.

Each year's doctorate recipients provide information on postgraduation employment or study plans in response to items 18 and 19 on the survey form. As the questionnaire is filled out at about the time the doctorate is received, these planned activities can be subject to change. However, comparisons with data from the longitudinal Survey of Doctorate Recipients have shown these data to be a reasonable reflection of actual employment status in the year following the doctorate.^{5/} Postgraduation plans of the doctorate recipients are grouped as:

"Postdoctoral Study Plans" (fellowship, research associateship, traineeship, other), "Planned Employment" (educational institution, industry, etc.), or "Postdoctoral Status Unknown." The sum of these columns of percentages totals 100 percent with allowance for rounding. For example, 3.7 percent of all the engineers plan to go to postdoctoral fellowships, 7.6 percent to research associateships, 1.5 percent to traineeships, 0.4 percent plan on some other form of postdoctoral study support, 80.2 percent plan on employment, and 6.7 percent did not indicate their postgraduation plans. The percentages listed by type of employer (educational institution, industry, etc.) total to the 80.2 percent planning on employment.

The four lines of data beginning with "Definite Postdoctoral Study," first included in the 1974 report, distinguish between individuals who have definite postgraduation plans (item 17: "Am returning to, or continuing in, predoctoral appointment" or "Have signed contract or made definite

^{5/}Century of Doctorates: Data Analyses of Growth and Change, National Academy of Sciences, 1978, pp. 92-93.

commitment" in the survey questionnaire) and those who are still seeking employment or postdoctoral study (item 17: "Am negotiating with one or more specific organizations," "Am seeking appointment but have no definite prospects," or "Other"). These four lines when added to the prior line "Postdoctoral Status Unknown" total 100 percent. The two lines "Definite Postdoctoral Study" and "Seeking Postdoctoral Study" add to give the total percentage planning postdoctoral study listed in the table as "Postdoctoral Study Plans," and the two lines "Definite Employment" and "Seeking Employment" add to give the total percentage planning employment in the table as "Planned Employment After Doctorate."

Percentages showing the distribution of doctorate recipients by work activity and by region of employment are based on those who have a definite employment commitment. They exclude those still seeking employment and those planning postdoctoral study as described in the categories above. These data differ from Summary Reports prior to 1974, which included all individuals planning on employment, i.e., those seeking as well as those having definite employment commitments.

Table 3

Displayed in Table 3 are data on all sources of financial support in graduate school reported by doctorate recipients. Although this table duplicates to some extent the analysis presented earlier in the report, it is included here to maintain the continuity of the series of these tables published in each of the fifteen Summary Reports. The question on source of support was answered by 29,480 (94 percent) of the 1981 doctorate recipients. The data in the table should be interpreted as follows: 208 male doctorate recipients in the physical sciences reported financial support from NSF fellowships during graduate school. This number is 6.0 percent of the male physical sciences doctorates who answered the question, and it is 40.2 percent of the males in all fields who reported NSF fellowship support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent.

Table 4

Table 4 shows the number of persons receiving a doctorate from universities in each of the 50 states, the District of Columbia, and Puerto Rico.

Table 5

The 1973 Summary Report was the first to include data for racial and ethnic groups. The tables in that report stimulated many requests for more detailed data by individual racial or ethnic group. Such data are provided in Table 5, first included in the 1974 Summary Report. Table 5 contains data by racial or ethnic group and by U.S. citizenship status for selected variables from Tables 2 and 3. Comparisons between the 1973 data and data for 1974 to 1981 are somewhat tenuous because of the large number of cases (8,952) for which racial or ethnic data were unavailable in 1973.

In 1977, the item on racial or ethnic group in the survey questionnaire was revised to coincide with the question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally-sponsored surveys. An explanation of the effects of these changes is detailed on page 13 of the 1977 Summary Report. Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to Asian in 1978. In 1980, the category Hispanic was subdivided into Puerto Rican, Mexican-American, and Other Hispanic to provide more detail for users of the racial/ethnic data.

An additional revision to this item in 1980 involves the number of categories that may be checked. Prior to 1980, doctorate recipients could check as many categories as applied to indicate their racial/ethnic background. When compiling the data, all persons who checked "white" in addition to one other category, with the exception of "black," were included with those who had provided the single category response. Those whose responses were "black" and who gave an additional response to any other category were designated as "black." Beginning in 1980, respondents were asked to check only one category. Evidence of this change was most pronounced in the "American Indian" group where the majority of the respondents formerly checked "white" in addition to "American Indian."

TABLE 1
NUMBER OF DOCTORATE RECIPIENTS BY SEX AND SUBFIELD, 1981

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES			SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL		MEN	WOMEN	TOTAL
TOTAL ALL FIELDS	21467	2822	31112	ENGINEERING	2422	22	2422
PHYSICAL SCIENCES	3066	302	4168	AERONAUTICAL AND ASTRONAUTICAL	97		97
MATHEMATICS	616	112	728	AGRICULTURAL	60	2	62
ALGEBRA	40	14	54	BIOMEDICAL	60	3	63
ANALYSIS AND FUNCTIONAL ANALYSIS	97	8	105	CIVIL	281	6	287
GEOMETRY	28	1	29	CHEMICAL	285	11	296
LOGIC	17	1	18	CERAMIC	23	1	24
NUMBER THEORY	23	1	24	COMPUTER	63	8	71
PROBABILITY, MATH STATISTICS	131	32	163	ELECTRICAL	397	14	411
TOPOLOGY	44	11	55	ELECTRONICS	67		67
COMPUTING THEORY AND PRACTICE	14	2	16	INDUSTRIAL	60	6	66
OPERATIONS RESEARCH	31	4	35	NUCLEAR	124	6	130
APPLIED	94	24	118	ENGINEERING MECHANICS	77	1	78
MATHEMATICS, GENERAL	72	8	80	ENGINEERING PHYSICS	20	2	22
MATHEMATICS, OTHER	25	6	31	MECHANICAL	277	5	282
COMPUTER SCIENCES	206	26	232	METALLURGY AND PHYSICAL MET	94	5	99
PHYSICS AND ASTRONOMY	942	73	1015	SYSTEMS DESIGN, SYSTEMS SCIENCE	64	4	68
ASTRONOMY	43	7	50	OPERATIONS RESEARCH	73	7	80
ASTROPHYSICS	55	4	59	FUEL TECH, PETROLEUM	21		21
ATOMIC AND MOLECULAR	57	8	65	SANITARY AND ENVIRONMENTAL	67	4	71
ACOUSTICS	11	2	13	MINING	8		8
FLUIDS	11	3	14	MATERIALS SCIENCE	102	11	113
PLASMA	63	2	65	ENGINEERING, GENERAL	36	1	37
OPTICS	53	1	54	ENGINEERING, OTHER	73	2	75
THERMAL	7		7				
ELEMENTARY PARTICLES	109	8	117	LIFE SCIENCES	4018	1443	5461
NUCLEAR STRUCTURE	59	3	62	BIOLOGICAL SCIENCES	2411	986	3397
SOLID STATE	230	20	250	BIOCHEMISTRY	455	189	644
PHYSICS, GENERAL	162	10	172	BIOPHYSICS	89	10	99
PHYSICS, OTHER	82	5	87	BIOMETRICS, BIostatistics	36	12	48
CHEMISTRY	1376	235	1611	ANATOMY	108	48	156
ANALYTICAL	199	30	229	CYTOLOGY	33	14	47
INORGANIC	153	35	188	EMBRYOLOGY	10	10	20
ORGANIC	430	60	490	IMMUNOLOGY	89	60	149
NUCLEAR	12		12	BOTANY	105	42	147
PHYSICAL	224	51	275	ECOLOGY	145	52	197
THEORETICAL	27	6	33	MICROBIOLOGY AND BACTERIOLOGY	250	103	353
PHARMACEUTICAL	47	5	52	PHYSIOLOGY, ANIMAL	247	80	327
POLYMER	57	4	61	PHYSIOLOGY, PLANT	57	11	68
CHEMISTRY, GENERAL	171	26	197	ZOOLOGY	150	47	197
CHEMISTRY, OTHER	56	18	74	GENETICS	95	62	157
EARTH, ENVIRONMENTAL AND MARINE SCI	526	56	582	ENTOMOLOGY	130	13	143
MINERALOGY, PETROLOGY	25	5	30	MOLECULAR BIOLOGY	117	68	185
GEOCHEMISTRY	43	5	48	NUTRITION AND/OR DIETETICS	40	59	99
STRATIGRAPHY, SEDIMENTATION	35	7	42	BIOL SCIENCES, GENERAL	147	60	207
PALAEONTOLOGY	18	1	19	BIOL SCIENCES, OTHER	108	46	154
STRUCTURAL GEOLOGY	26	1	27	AGRICULTURAL SCIENCES	1003	147	1150
GEOPHYSICS (SOLID EARTH)	67	5	72	AGRONOMY	162	15	177
GEOMORPHOL, GLACIAL GEOLOGY	11	2	13	AGRICULTURAL ECONOMICS	155	13	168
HYDROLOGY AND WATER RESOURCES	20	1	21	ANIMAL HUSBANDRY	19		19
OCEANOGRAPHY	63	7	70	FOOD SCIENCE AND TECHNOLOGY	76	28	104
MARINE SCIENCES, OTHER	28	2	30	FISH AND WILDLIFE	57	9	66
ATMOSPHERIC PHYSICS AND CHEMISTRY	14	1	15	FORESTRY	89	6	95
ATMOSPHERIC DYNAMICS	26	1	27	HORTICULTURE	68	17	85
ATMOSPHERIC SCIENCES, OTHER	30	1	31	SOILS AND SOIL SCIENCE	83	7	90
ENVIRONMENTAL SCIENCES, GENERAL	27	3	30	ANIMAL SCIENCE AND ANIMAL NUTRITION	132	17	149
ENVIRONMENTAL SCIENCES, OTHER	16	8	24	PHYTOPATHOLOGY	78	21	99
APPL GEOL, GEOL ENG, ECOM GEOL	21		21	AGRICULTURE, GENERAL	4	1	5
EARTH SCIENCES, GENERAL	42	4	46	AGRICULTURE, OTHER	80	13	93
EARTH SCIENCES, OTHER	14	2	16				
				MEDICAL SCIENCES	604	310	914
				PUBLIC HEALTH AND EPIDEMIOLOGY	82	73	155
				VETERINARY MEDICINE	33	8	41
				NURSING	3	84	87
				PARASITOLOGY	13	5	18
				ENVIRONMENTAL HEALTH	37	6	43
				PATHOLOGY	79	27	106
				PHARMACOLOGY	211	69	280
				PHARMACY	58	11	69
				MEDICAL SCIENCES, GENERAL	16	8	24
				MEDICAL SCIENCES, OTHER	72	19	91

TABLE 1. CONTINUED

SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES			SUBFIELD OF DOCTORATE	NUMBER OF DOCTORATES		
	MEN	WOMEN	TOTAL		MEN	WOMEN	TOTAL
SOCIAL SCIENCES (INCL PSYCH)	6120	2313	6503	EDUCATION	3233	3536	2682
ANTHROPOLOGY	217	152	369	FOUNDATIONS: SOCIAL, PHILOS	121	87	208
COMMUNICATIONS	129	92	221	EDUCATIONAL PSYCHOLOGY	209	236	445
SOCIOLOGY	361	242	603	ELEMENTARY EDUCATION, GENERAL	60	120	180
ECONOMICS	707	100	807	SECONDARY EDUCATION, GENERAL	76	60	136
ECONOMETRICS	16	1	17	HIGHER EDUCATION	392	279	671
STATISTICS	32	7	39	ADULT EDUC AND EXTENSION EDUC	125	108	233
GEOGRAPHY	89	20	109	EDUCATION MEAS AND STATISTICS	49	41	90
AREA STUDIES	15	5	20	CURRICULUM AND INSTRUCTION	366	448	814
POLITICAL SCIENCE	349	76	445	EDUCATIONAL ADMIN AND SUPERVISION	1039	614	1653
PUBLIC ADMINISTRATION	120	27	147	GUIDANCE, COUNS, STUDENT PERSONNEL	296	253	549
INTERNATIONAL RELATIONS	75	12	87	SPECIAL ED (GIFTED, HANDICAPPED, ETC)	118	195	313
CRIMINOLOGY	26	9	35	AUDIO-VISUAL MEDIA	48	29	77
URBAN AND REGIONAL PLANNING	77	17	94	TEACHING FIELDS	762	760	1522
SOCIAL SCIENCES, GENERAL	17	5	22	AGRICULTURE	38	4	42
SOCIAL SCIENCES, OTHER	75	58	133	ART	27	36	63
PSYCHOLOGY	1885	1472	3357	BUSINESS	28	22	50
CLINICAL	701	555	1256	EARLY CHILDHOOD	11	19	30
COUNSELING AND GUIDANCE	191	160	351	ENGLISH	24	39	63
DEVELOP AND GERONTOLOGY	80	120	200	FOREIGN LANGUAGE	10	18	28
EDUCATIONAL	103	77	180	HOME ECONOMICS	25	25	50
SCHOOL PSYCHOLOGY	60	75	135	INDUSTRIAL ARTS	37	25	62
EXPERIMENTAL	189	93	282	MATHEMATICS	48	28	76
COMPARATIVE	8	3	11	MUSIC	23	23	46
PHYSIOLOGICAL	68	34	102	NURSING	218	149	367
INDUSTRIAL AND PERSONNEL	65	22	87	PHYS ED, HEALTH, AND REC	36	157	193
PERSONALITY	23	26	49	READING	71	34	105
PSYCHOMETRICS	17	10	27	SCIENCE	34	15	49
SOCIAL	104	76	180	SOCIAL SCIENCE	3	9	12
PSYCHOLOGY, GENERAL	148	135	283	SPEECH	135	78	213
PSYCHOLOGY, OTHER	128	88	216	VOCATIONAL	17	15	32
				OTHER TEACHING FIELDS			
HUMANITIES	2128	1562	3255	EDUCATION, GENERAL	205	202	407
ART, HISTORY AND CRITICISM	45	112	157	EDUCATION, OTHER	89	102	191
HISTORY, AMERICAN	171	56	227	OTHER AND UNSPECIFIED	22	8	33
HISTORY, EUROPEAN	119	45	164				
HISTORY, OTHER	186	88	274				
HISTORY AND PHILOSOPHY OF SCIENCE	21	5	26				
AMERICAN STUDIES	42	45	87				
THEATRE AND THEATRE CRITICISM	71	32	103				
MUSIC	260	108	368				
SPEECH AS A DRAMATIC ART	25	12	37				
ARCHAEOLOGY	15	13	28				
RELIGION	132	29	161				
PHILOSOPHY	224	53	277				
LINGUISTICS	98	78	176				
COMPARATIVE LITERATURE	58	74	132				
LANGUAGES AND LITERATURE	691	766	1457				
AMERICAN	66	80	146				
ENGLISH	327	343	670				
GERMAN	40	49	89				
RUSSIAN	14	13	27				
FRENCH	49	118	167				
SPANISH AND PORTUGUESE	91	93	184				
ITALIAN	7	9	16				
CLASSICAL	38	24	62				
OTHER LANGUAGES	39	37	76				
HUMANITIES, GENERAL	14	9	23				
HUMANITIES, OTHER	26	22	48				
PROFESSIONAL FIELDS	266	626	1388				
THEOLOGY	179	22	201				
BUSINESS ADMINISTRATION	532	90	622				
HOME ECONOMICS	15	70	85				
JOURNALISM	12	6	18				
SPEECH AND HEARING SCIENCES	56	84	140				
LAW, JURISPRUDENCE	27	1	28				
SOCIAL WORK	99	110	209				
LIBRARY AND ARCHIVAL SCIENCE	24	38	62				
PROFESSIONAL FIELDS, OTHER	20	3	23				

SOURCE: NRC, Office of Scientific and Engineering Personnel
Doctorate Records File.

TABLE 1A
NUMBER OF DOCTORATE RECIPIENTS BY CITIZENSHIP, RACIAL/ETHNIC GROUP, AND SUBFIELD, 1981

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP ¹								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
TOTAL ALL FIELDS	31312 ²	3224	26262	82	1062	1104	22400	111	161	242	1082
PHYSICAL SCIENCES	4168	742	3221	2	214	32	2802	14	3	24	188
MATHEMATICS	728	186	523	1	40	9	446	2		3	22
ALGEBRA	54	14	40		2		37				1
ANALYSIS AND FUNCTIONAL ANALYSIS	105	30	75		4	3	67				1
GEOMETRY	29	2	27		2		23			1	1
LOGIC	18	1	17				17				
NUMBER THEORY	24	3	21		1		19				1
PROBABILITY, MATH STATISTICS	163	30	112		10	3	95			1	3
TOPOLOGY	55	10	45		1		40				4
COMPUTING THEORY AND PRACTICE	14	3	13				11				
OPERATIONS RESEARCH	35	13	20		1	2	17				
APPLIED	118	27	90		11		73	1			5
MATHEMATICS, GENERAL	80	24	41	1	4	1	29			1	5
MATHEMATICS, OTHER	31	9	22		2		18	1			1
COMPUTER SCIENCES	232	40	188		16	2	162				8
PHYSICS AND ASTRONOMY	1015	200	768		55	6	631	3		5	68
ASTRONOMY	50	5	44				39				5
ASTROPHYSICS	59	3	56		1	1	50	1		1	2
ATOMIC AND MOLECULAR	45	11	33		3	1	44			1	4
ACOUSTICS	13	1	12		2		9				1
FLUIDS	14	5	9		1		8				
PLASMA	45	10	35		4	1	46				4
OPTICS	54	11	41		4		34				3
THERMAL	7	3	4		1		3				
ELEMENTARY PARTICLES	117	21	96		4	1	78	1		1	11
NUCLEAR STRUCTURE	42	14	46		1		39				6
SOLID STATE	250	54	193		15		163	1		2	12
PHYSICS, GENERAL	172	48	83		15	2	53				13
PHYSICS, OTHER	87	10	76		4		65				7
CHEMISTRY	1611	238	1326	1	91	18	1121	7	3	12	73
ANALYTICAL	229	20	209	1	8	1	189	1			9
INORGANIC	188	18	168		7	5	144		1	3	8
ORGANIC	490	62	427		30	3	376	3	1	3	11
NUCLEAR	12	1	11				9			1	1
PHYSICAL	275	35	239		13	2	206	2	1	1	14
THEORETICAL	33	6	27		1		25			1	
PHARMACEUTICAL	52	7	44		3	1	36	1		1	2
POLYMER	61	22	39		14		25				
CHEMISTRY, GENERAL	197	54	100		6	6	60			2	26
CHEMISTRY, OTHER	74	11	62		9		51				2
EARTH, ENVIRONMENTAL AND MARINE S/I	582	85	486		12	4	447	2		4	17
MINERALOGY, PETROLOGY	30	3	27				24				1
GEOCHEMISTRY	48	1	47		1		44			1	1
STRATIGRAPHY, SEDIMENTATION	42	5	37				36	1			
PALEONTOLOGY	19		19				18				1
STRUCTURAL GEOLOGY	27		27				27				
GEOPHYSICS (SOLID EARTH)	72	12	58		4	1	49			1	3
GEOMORPHOL, GLACIAL GEOLOGY	13	1	12				12				
HYDROLOGY AND WATER RESOURCES	21	8	12				12				
OCEANOGRAPHY	70	6	63		2		56			1	4
MARINE SCIENCES, OTHER	30	3	27				27				
ATMOSPHERIC PHYSICS AND CHEMISTRY	15	1	14			1	12	1			
ATMOSPHERIC DYNAMICS	27	4	23		2		21				
ATMOSPHERIC SCIENCES, OTHER	31	12	19		1		18				
ENVIRONMENTAL SCIENCES, GENERAL	30	3	27		1	1	25				
ENVIRONMENTAL SCIENCES, OTHER	24	6	18			1	17				
APPL GEOL, GEOL ENG, ECON GEOL	21	4	16				16				
EARTH SCIENCES, GENERAL	46	12	28		1		20			1	6
EARTH SCIENCES, OTHER	16	4	12				11				1

¹/For more detailed explanation of racial/ethnic groups see item 8 on questionnaire on page 42.

²/Includes 1,133 individuals who did not report their citizenship at time of doctorate.

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP								OTHER & UNK
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	
ENGINEERING	2528	263	1662	6	282	12	1022	1	2	2	16
AERONAUTICAL AND ASTRONAUTICAL	97	35	56		6		46				4
AGRICULTURAL	62	41	21		3		17				1
BIOMEDICAL	63	6	57		6	1	46				4
CIVIL	287	135	139	1	26	3	100	2		2	5
CHEMICAL	296	112	171		42	2	122		1		4
CERAMIC	24	8	16		3		13				
COMPUTER	71	24	46		16		30				
ELECTRICAL	411	134	251		50	6	182				13
ELECTRONICS	67	15	51		6	1	41	1		1	1
INDUSTRIAL	66	20	42		6		33			1	2
NUCLEAR	130	49	75		15	1	55				4
ENGINEERING MECHANICS	78	30	45		7	1	34				3
ENGINEERING PHYSICS	22	7	15		3		12				
MECHANICAL	282	114	156		36	1	110		1		4
METALLURGY AND PHYSICAL MET	99	50	46	1	15		29			1	
SYSTEMS DESIGN, SYSTEMS SCIENCE	68	27	39		3	1	32			1	2
OPERATIONS RESEARCH	80	31	49		10		38				1
FUEL TECH, PETROLEUM	21	13	6		2	1	3				
SANITARY AND ENVIRONMENTAL	71	17	53		2	1	46	2		1	1
MINING	8	1	6		1		5				
MATERIALS SCIENCE	113	35	73		18		51				4
ENGINEERING, GENERAL	37	8	15		3		12				
ENGINEERING, OTHER	75	31	39		3		35				1
LIFE SCIENCES	3461	228	4321	11	212	80	4021	10	15	36	206
BIOLOGICAL SCIENCES	3397	252	3058	6	136	47	2691	6	11	22	139
BIOCHEMISTRY	644	43	584	1	37	9	509		2	4	22
BIOPHYSICS	99	13	85		3		78			1	3
BIOMETRICS, BIOSTATISTICS	48	7	40		2		36				2
ANATOMY	156	4	148		3	1	138			2	4
CYTOLOGY	47	4	42		1	1	38			1	2
EMBRYOLOGY	20	1	19		1	3	15				
IMMUNOLOGY	149	6	142		11	2	124		1	1	3
BOTANY	147	12	128	1	3	1	116		1		6
ECOLOGY	197	10	184		4		169	1	1		8
MICROBIOLOGY AND BACTERIOLOGY	353	32	314	1	16	7	268	2	2	2	16
PHYSIOLOGY, ANIMAL	327	14	311	1	10	2	283	1	1	2	11
PHYSIOLOGY, PLANT	68	11	56		2		49		1		4
ZOOLOGY	197	11	180		3	3	167	1		1	5
GENETICS	157	15	140		5		128			2	5
ENTOMOLOGY	143	26	115	1	9		97		2	1	5
MOLECULAR BIOLOGY	185	7	174		5	3	153	1		2	10
NUTRITION AND/OR DIETETICS	99	14	81	1	4	7	61				8
BIOL SCIENCES, GENERAL	207	13	177		14	5	138			1	19
BIOL SCIENCES, OTHER	154	9	138		4	3	124			1	6
AGRICULTURAL SCIENCES	1150	388	731	2	29	18	635	2	3	11	31
AGRONOMY	177	60	113		3		105	1		2	2
AGRICULTURAL ECONOMICS	168	64	103	1	4	7	84			2	5
ANIMAL HUSBANDRY	19	4	15		1		13				1
FOOD SCIENCE AND TECHNOLOGY	104	49	53		6	1	39			3	4
FISH AND WILDLIFE	66	2	62				58			1	3
FORESTRY	95	21	70		3	2	63	1			1
HORTICULTURE	85	32	48		3	1	40		1	1	2
SOILS AND SOIL SCIENCE	90	39	48		2	3	39			1	3
ANIMAL SCIENCE AND ANIMAL NUTRITION	149	54	89	1	4	2	77		2		3
PHYTOPATHOLOGY	99	27	71		2	1	65			1	2
AGRICULTURE, GENERAL	5	4	1				1				
AGRICULTURE, OTHER	93	52	58		1	1	51				5
MEDICAL SCIENCES	914	88	802	3	47	15	695	2	1	3	36
PUBLIC HEALTH AND EPIDEMIOLOGY	155	13	140		2	4	126	1			7
VETERINARY MEDICINE	41	14	25				24			1	
NURSING	87	4	83		1	3	77	1			1
PARASITOLOGY	18	3	14				12		1		1
ENVIRONMENTAL HEALTH	43	3	38	1	1	3	32				1
PATHOLOGY	106	16	85		4		77				4
PHARMACOLOGY	280	16	259		16	3	226			1	13
PHARMACY	69	6	62		20	2	34			1	5
MEDICAL SCIENCES, GENERAL	24		23	1	1		19				2
MEDICAL SCIENCES, OTHER	91	13	73	1	2		68				2

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP								OTHER & UNK
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PURTO RICAN	MEX-ICAN	OTHER HISPANIC	
SOCIAL SCIENCES (INCL PSYCH)	6303	372	3662	14	133	223	4260	16	43	61	208
ANTHROPOLOGY	364	25	329	1	4	7	283	1	3	5	25
COMMUNICATIONS	221	16	198		5	10	178			1	4
SOCIOLOGY	603	69	520		18	25	444	2	11	2	18
ECONOMICS	807	199	575	2	32	16	477	2	2	8	36
ECONOMETRICS	17	5	12		3		9				
STATISTICS	39	18	20		3		17				
GEOGRAPHY	101	20	85		4	2	71		1	1	6
AREA STUDIES	20	5	13		1		10				1
POLITICAL SCIENCE	445	52	373		15	25	305	1		7	20
PUBLIC ADMINISTRATION	147	18	107	1	3	9	88			1	5
INTERNATIONAL RELATIONS	87	16	64		1	4	54		1		4
CRIMINOLOGY	35		34				33	1			
URBAN AND REGIONAL PLANNING	94	26	56		2	4	44		1	2	2
SOCIAL SCIENCES, GENERAL	22	4	16		1	1	14		1		
SOCIAL SCIENCES, OTHER	133	19	107		3	6	91			1	5
PSYCHOLOGY	3357	80	3153	10	41	113	2841	8	25	33	82
CLINICAL	1256	13	1218	5	13	55	1086	6	8	16	29
COUNSELING AND GUIDANCE	351	10	340		6	17	307	1	3	3	3
DEVELOP AND GERONTOL	200	3	197		2	2	187			1	5
EDUCATIONAL	180	4	174	1	2	2	159		2	3	5
SCHOOL PSYCHOLOGY	133	1	130		1	2	120		2	1	4
EXPERIMENTAL	282	9	271	1	4	3	257		2	1	3
COMPARATIVE	11		11				10			1	
PHYSIOLOGICAL	102	3	98		3	1	92		1		1
INDUSTRIAL AND PERSONNEL	87	2	85	1	1	4	75			1	3
PERSONALITY	49	1	48		1	3	43				1
PSYCHOMETRICS	27	3	24				24				
SOCIAL	180	7	170		1	9	153		3	1	3
PSYCHOLOGY, GENERAL	283	10	209		3	9	167	1	3	2	24
PSYCHOLOGY, OTHER	216	14	178	2	4	6	161		1	3	1
HUMANITIES	3745	236	3358	12	56	21	2825	23	17	66	132
ART, HISTORY AND CRITICISM	157	8	143		7	2	134			1	4
HISTORY, AMERICAN	227	5	222		2	13	193		2	1	11
HISTORY, EUROPEAN	164	3	161	1	2	1	149		1	2	5
HISTORY, OTHER	274	34	219	1	4	8	177	4	2	7	16
HISTORY AND PHILOSOPHY OF SCIENCE	26	4	22				19				3
AMERICAN STUDIES	87	3	82	1	2	5	70				4
THEATRE AND THEATRE CRITICISM	103	3	97			5	90		1		1
MUSIC	368	15	319	1	8	8	294			1	7
SPEECH AS A DRAMATIC ART	37		34	1			30			1	2
ARCHEOLOGY	28		27				26				1
RELIGION	161	8	150	1	5	8	125	1			10
PHILOSOPHY	277	19	252	1	4	5	225	2		1	14
LINGUISTICS	176	47	120		5	2	105	1	1	1	5
COMPARATIVE LITERATURE	132	8	114	1	1	3	99		1	6	3
LANGUAGES AND LITERATURE	1457	74	1329	3	21	31	1159	15	9	43	48
AMERICAN	146	8	138		1	10	122				5
ENGLISH	670	26	620	3	8	10	571	1	1	2	24
GERMAN	89	3	81				80				1
RUSSIAN	27	1	26				25				1
FRENCH	167	6	158		1	9	143				3
SPANISH AND PORTUGUESE	184	13	166		3	1	99	13	8	40	2
ITALIAN	16	1	15				14				1
CLASSICAL	62	3	57			1	54				2
OTHER LANGUAGES	96	13	68		8		51	1		1	7
HUMANITIES, GENERAL	23		23	1			19				3
HUMANITIES, OTHER	48	3	44			2	40				2
PROFESSIONAL FIELDS	1388	166	1172	3	66	32	286	2	3	2	61
THEOLOGY	201	14	183		3		162			4	14
BUSINESS ADMINISTRATION	622	92	495	1	29	14	420	3		2	24
HOME ECONOMICS	85	6	79			1	74	1			3
JOURNALISM	18	3	13		1		11				1
SPEECH AND HEARING SCIENCES	140	1	139	2	2	10	120	1			4
LAW, JURISPRUDENCE	28	11	15		1		13				1
SOCIAL WORK	209	15	185		6	25	134	4	3	2	9
LIBRARY AND ARCHIVAL SCIENCE	62	14	48		1	7	35			1	4
PROFESSIONAL FIELDS, OTHER	23	7	15		1		13				1

TABLE 1A. CONTINUED

SUBFIELD OF DOCTORATE	TOTAL DOCTORATES	NON-U.S. CITIZENS TEMP. VISAS	U.S. CITIZENS AND NON-U.S. WITH PERMANENT VISAS RACIAL/ETHNIC GROUP 1/								
			TOTAL	AMER. IND.	ASIAN	BLACK	WHITE	PUERTO RICAN	MEX-ICAN	OTHER HIS-PANIC	OTHER & UNK
EDUCATION	2682	324	4693	62	112	382	3361	38	24	44	224
FOUNDATIONS: SOCIAL, PHILOS	208	29	145	1	6	13	130	1	2	3	9
EDUCATIONAL PSYCHOLOGY	445	23	415	2	13	21	362	4	2	4	7
ELEMENTARY EDUCATION, GENERAL	180	4	164	1	1	9	141		1	2	9
SECONDARY EDUCATION, GENERAL	136	14	107		2	6	96			1	4
HIGHER EDUCATION	671	39	628	4	11	80	494	3	9	5	22
ADULT EDUC AND EXTENSION EDUC	233	21	210	1	2	19	183		1	1	3
EDUCATION MEAS AND STATISTICS	90	11	77	1	4	2	68			1	1
CURRICULUM AND INSTRUCTION	814	49	739	3	11	61	607	6	20	4	27
EDUCATIONAL ADMIN AND SUPERVISION	1453	88	1542	19	17	190	1239	7	17	6	47
GUIDANCE, COUNS, STUDENT PERSONNEL	549	14	524	1	7	35	457	3	4	2	15
SPECIAL ED (GIFTED, HANDICAPPED, ETC)	313	9	301	1	3	9	275	3	1	1	8
AUDIO-VISUAL MEDIA	77	13	64		2	1	60	1			
TEACHING FIELDS	1522	136	1354	5	24	104	1154	8	13	7	39
AGRICULTURE	42	9	32		2	3	25		1		1
ART	63	8	55			3	51			1	
BUSINESS	50	8	42				42				
EARLY CHILDHOOD	90	2	82	1	1	9	66	1	1	1	2
ENGLISH	63	7	55		2	4	49				
FOREIGN LANGUAGE	28	5	21		1	1	15	1	1	1	1
HOME ECONOMICS	25	3	22		1	5	16				
INDUSTRIAL ARTS	27	1	25			2	21				2
MATHEMATICS	74	8	53	1	1	4	47				1
MUSIC	23	4	19		1	1	19				6
NURSING	23	1	22								
PHYS ED, HEALTH, AND REC	347	36	324	1	7	18	275	2	2	4	15
READING	193	6	182			10	163	1	2		6
SCIENCE	107	23	84	2	2	12	67				1
SOCIAL SCIENCE	49	4	45		1	4	39	1			
SPEECH	12		12			1	10	1			
VOCATIONAL	213	10	200		3	20	172	1	1		3
OTHER TEACHING FIELDS	32	1	31		1	3	21		5		1
EDUCATION, GENERAL	407	38	237	2	6	23	176		4	3	23
EDUCATION, OTHER	191	18	166	1	10	16	119	2	2	6	10
OTHER AND UNSPECIFIED	35	8	26	1		2	21				2

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981^{1/}
TOTAL ALL DOCTORATES

		1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	EMP FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
NUMBER IN FIELD		31319	1015	1611	582	1708	728	232	2528	6694	644	1336	1417	1397	914	1150
MALE	X	68.5	92.8	85.4	90.4	88.7	84.6	88.8	96.1	91.0	70.7	70.6	71.5	71.0	66.1	87.2
FEMALE		31.5	7.2	14.6	9.6	11.3	15.4	11.2	3.9	9.0	29.3	29.4	28.5	29.0	33.9	12.8
U.S. CITIZENSHIP	X	79.8	70.4	76.5	80.9	75.4	65.9	72.4	46.2	63.1	85.9	89.2	84.8	86.8	82.6	59.6
FOREIGN CITIZENSHIP		16.6	24.9	20.5	17.2	21.3	31.5	25.9	49.1	33.1	11.5	9.3	11.6	10.7	14.8	37.7
UNKNOWN		3.6	4.6	2.9	1.9	3.3	2.6	1.7	4.7	3.7	2.6	1.5	3.5	2.6	2.6	2.7
MARRIED	X	60.1	50.0	52.8	59.5	53.1	49.7	54.3	61.6	54.0	51.9	54.9	55.8	54.7	59.1	73.0
NOT MARRIED		34.7	43.6	42.8	37.5	42.1	46.0	41.4	32.7	38.9	44.6	42.0	38.9	41.1	36.3	23.1
UNKNOWN		5.2	6.4	4.5	3.1	4.8	4.3	4.3	5.8	5.1	3.6	3.1	5.3	4.1	4.6	3.8
MEDIAN AGE AT DOCTORATE		32.4	29.1	28.3	30.9	29.0	29.2	30.1	30.5	29.6	28.5	29.3	30.2	29.5	31.2	31.7
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		53.3	80.5	84.6	47.8	76.6	80.2	13.8	74.1	73.9	22.0	18.9	66.3	39.3	26.7	55.8
PERCENT WITH MASTERS		80.6	65.8	38.3	75.6	53.8	76.6	80.6	89.4	70.6	29.3	44.2	66.5	50.7	60.6	91.7
MEDIAN TIME LAPSE FROM BACC TO DOCT TOTAL TIME	YRS	9.4	7.0	6.0	8.3	6.7	6.9	7.7	7.9	7.2	6.4	6.7	7.6	7.0	8.3	8.0
REGISTERED TIME		6.4	6.2	5.2	6.4	5.7	5.9	6.2	5.6	5.7	5.7	5.8	6.3	6.0	6.0	5.6
POSTDOCTORAL STUDY PLANS X		18.3	45.5	38.4	29.2	39.0	15.2	6.5	13.1	25.5	78.3	75.5	47.3	64.3	42.0	13.7
FELLOWSHIP		8.9	16.4	16.1	9.3	14.9	6.7	2.2	3.7	9.3	45.3	46.0	24.6	36.9	24.4	3.9
RESEARCH ASSOC		6.7	28.5	20.4	19.1	22.7	5.8	3.0	7.6	14.5	25.2	18.9	17.9	19.7	8.8	8.9
TRAINERSHIP		1.0	.2	.8	.2	.5	1.4	.9	1.5	1.0	2.2	2.1	1.3	1.8	1.8	.8
OTHER		1.7	.5	1.1	.7	.8	1.4	.4	.4	.7	5.6	8.5	3.5	5.9	7.1	.1
PLANNED EMPLOYMENT AFTER DOCTORATE	X	75.4	46.9	55.5	66.3	54.7	78.8	90.1	80.2	68.2	16.5	20.6	45.4	30.2	53.2	80.5
EDUC INSTITUTION		44.3	10.0	7.4	21.5	10.8	53.7	46.6	24.7	21.9	5.4	11.1	28.4	17.2	27.4	42.2
INDUSTRY/BUSINESS		14.2	26.4	42.4	27.7	34.7	18.0	35.3	42.6	35.9	7.9	5.5	7.0	6.6	11.5	15.1
GOVERNMENT		8.8	7.8	3.6	14.9	7.0	5.1	4.7	9.6	7.7	2.0	2.5	6.8	4.2	7.2	16.4
NONPROFIT		4.7	.7	1.1	.2	.8	.8	.4	1.6	1.1	.5	.7	1.6	1.0	4.2	1.9
OTHER & UNKNOWN		3.4	2.1	1.1	2.1	1.6	1.2	3.0	1.7	1.6	.6	.9	1.7	1.2	3.0	4.9
POSTDOCT STATUS UNKN	X	6.3	7.6	6.1	4.5	6.3	5.9	3.4	6.7	6.3	5.3	3.9	7.3	5.6	4.8	5.8
DEFINITE POSTDOCTORAL STUDY		13.4	36.1	30.0	21.3	30.4	10.0	4.3	8.1	18.8	65.1	63.0	35.1	51.8	32.1	8.2
SEEKING POSTDOCTORAL STUDY		4.9	9.5	8.4	7.9	8.6	5.2	2.2	5.0	6.7	13.2	12.5	12.2	12.5	10.0	3.5
DEFINITE EMPLOYMENT		56.0	35.4	46.7	54.6	44.5	62.0	72.0	61.9	53.9	11.4	14.3	30.3	20.5	40.2	59.4
SEEKING EMPLOYMENT		19.5	11.5	8.8	11.7	10.2	16.9	18.1	18.3	14.3	4.8	6.3	15.1	9.7	13.0	21.1
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	X	26.2	74.6	82.6	56.0	75.2	42.6	60.5	62.6	65.0	72.0	48.7	63.7	48.1	41.1	37.2
TEACHING		39.7	15.9	9.8	22.6	14.2	49.4	29.3	22.1	22.7	12.0	29.3	37.7	32.6	33.5	23.1
ADMINISTRATION		14.2	1.4	1.6	3.8	2.0	1.1	3.0	2.4	2.1	4.0	4.7	5.6	5.2	9.5	2.6
PROP. SERVICES		12.1	1.7	2.5	6.6	3.2	3.1	2.4	5.4	4.1	8.0	11.5	7.2	8.5	9.5	4.2
OTHER		2.9	1.7	1.1	7.2	2.6	1.6	1.8	2.6	2.4	1.3	2.1	2.3	2.2	2.2	5.6
ACTIVITY UNKNOWN		4.8	2.8	2.4	3.8	2.8	2.2	3.0	4.9	3.7	2.7	3.7	3.5	3.4	4.1	7.2
SECONDARY ACTIVITY																
R & D		25.2	13.9	7.7	25.5	13.2	42.1	29.3	21.4	21.1	13.3	23.0	33.5	28.4	27.8	17.8
TEACHING		11.9	4.2	3.1	8.5	4.5	19.7	20.4	11.3	10.1	14.7	18.8	18.4	18.1	16.3	19.6
ADMINISTRATION		9.7	7.8	14.9	11.0	12.2	3.5	4.2	8.8	9.3	16.0	10.5	6.3	8.5	16.1	10.0
PROP. SERVICES		7.7	4.2	6.1	8.8	6.2	3.3	2.4	6.8	5.9	1.3	4.7	6.7	5.6	7.4	6.6
OTHER		2.0	1.7	1.2	1.6	1.4	.7	.0	1.4	1.2	.0	.5	1.2	.9	.5	1.5
NO SECONDARY ACTIVITY		38.6	65.5	64.6	40.9	59.6	28.4	40.7	45.4	48.6	52.0	38.7	30.5	35.1	27.8	35.4
UNKNOWN		4.8	2.8	2.4	3.8	2.8	2.2	3.0	4.9	3.7	2.7	3.7	3.5	3.4	4.1	7.2
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	X	6.5	7.8	4.9	4.4	5.5	8.4	10.8	6.3	6.5	6.7	5.8	6.0	6.0	4.4	2.2
MIDDLE ATLANTIC		15.1	20.6	25.3	8.2	20.3	15.7	19.2	16.9	18.2	14.7	14.7	10.9	12.8	16.6	5.7
EAST NO CENTRAL		13.9	8.1	18.0	6.6	12.9	17.1	5.4	11.9	12.7	14.0	17.3	8.4	11.2	16.3	8.6
WEST NO CENTRAL		6.2	2.8	3.5	2.8	5.1	5.8	4.8	3.3	3.4	2.7	7.9	7.0	6.8	6.8	10.0
SOUTH ATLANTIC		15.3	9.2	15.8	12.3	13.4	13.5	12.0	11.6	12.5	20.0	13.6	17.4	16.7	16.1	12.3
EAST SO CENTRAL		4.3	1.9	3.2	2.2	2.7	4.2	1.2	2.9	2.9	5.3	3.1	5.3	4.7	3.3	4.7
WEST SO CENTRAL		8.2	7.8	10.1	20.8	11.9	9.3	10.2	8.4	10.0	5.3	10.5	9.8	9.5	7.9	5.9
MOUNTAIN		4.6	8.6	2.5	13.2	6.4	3.3	4.2	3.2	5.4	2.7	4.7	5.3	4.9	2.7	5.6
PACIFIC & INSULAR		11.3	22.8	9.3	17.3	14.5	10.9	21.6	15.8	14.9	16.0	9.9	13.7	12.9	10.6	9.4
FOREIGN		9.0	7.2	3.7	8.8	5.7	10.4	7.8	13.5	9.8	9.3	9.9	13.5	12.1	9.5	32.1
REGION UNKNOWN		5.5	3.1	3.7	3.5	3.5	3.3	3.0	4.2	3.7	1.3	2.6	2.6	2.4	5.7	3.7

^{1/}Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

TOTAL ALL DOCTORATES

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED ²
5441	3357	824	972	679	673	6505	18662	691	816	641	1597	3745	1388	7489	12622	35
73.6	56.2	87.7	59.5	80.1	68.4	64.4	74.6	71.9	48.2	46.5	63.2	58.7	69.5	52.8	56.4	77.1
26.4	43.8	12.3	40.5	19.9	31.6	35.6	23.4	28.1	51.8	53.5	36.8	41.3	30.5	47.2	43.6	22.9
80.3	92.5	64.1	83.5	75.6	74.6	84.0	75.5	87.4	90.8	78.6	85.2	85.7	79.6	87.7	86.2	
17.1	3.8	31.9	13.5	17.2	20.1	11.9	21.0	9.6	6.3	16.7	9.9	10.2	14.6	8.8	10.1	
2.6	3.7	4.0	3.0	7.2	5.3	4.2	3.5	3.0	2.9	4.7	4.9	4.1	3.7	3.6	3.7	
59.3	53.8	58.9	59.2	59.4	61.4	56.6	57.2	60.6	57.6	54.9	56.0	57.0	66.1	67.9	64.5	
36.6	41.0	35.0	35.6	31.2	31.9	37.5	37.7	33.4	37.6	37.9	36.8	36.3	27.8	27.3	30.1	
4.1	5.2	6.2	5.2	9.4	6.7	5.9	5.1	5.9	4.8	7.2	7.2	6.4	6.1	4.8	5.4	
30.1	31.4	30.9	33.2	33.4	33.5	32.0	30.5	33.4	33.5	34.1	33.3	33.5	34.2	37.3	33.7	
40.7	44.5	63.0	60.3	49.0	26.3	59.1	59.0	65.5	77.3	59.8	52.1	61.0	34.6	38.9	45.0	
61.0	81.4	77.4	87.5	89.2	90.9	83.6	72.3	89.3	89.1	85.0	86.1	87.2	91.9	95.7	92.8	
7.3	8.4	8.0	10.0	10.4	10.1	9.0	7.8	11.0	10.9	10.9	10.6	10.8	11.1	13.5	12.3	
5.9	6.3	6.1	7.5	7.0	6.2	6.5	6.0	8.3	7.7	7.8	7.4	7.7	6.6	7.0	7.2	
49.9	17.5	4.2	12.9	6.3	4.6	12.6	28.1	7.7	2.8	5.6	5.9	5.5	1.9	3.2	3.8	
27.9	9.6	1.8	6.9	3.2	1.5	4.7	13.9	4.2	1.5	2.2	2.6	2.6	.9	1.0	1.5	
15.6	3.1	1.3	4.1	1.8	1.9	2.8	10.7	1.3	.1	1.2	.9	.9	.6	.9	.9	
1.6	3.1	.5	.1	.4	.3	1.7	1.4	.3	.0	.0	.3	.2	.3	.6	.4	
4.9	1.7	.6	1.7	.9	.9	1.4	2.2	1.9	1.2	2.2	2.1	1.9	.1	.7	1.0	
44.6	76.7	89.7	80.8	83.2	87.2	80.7	65.7	85.7	89.8	86.4	85.5	86.6	91.6	91.1	89.8	
24.2	29.8	55.7	55.8	46.5	54.2	41.2	29.3	59.9	74.8	70.2	65.9	67.5	65.1	66.3	66.5	
9.2	12.7	11.2	6.0	8.5	13.1	11.1	19.4	8.7	7.5	5.9	6.3	6.9	8.9	5.8	6.5	
7.3	14.7	14.9	7.7	18.0	10.8	13.7	9.6	7.5	1.5	2.3	2.8	3.3	5.4	10.2	7.6	
1.7	13.8	4.2	6.2	4.7	4.5	9.5	6.2	4.9	1.1	1.1	6.6	4.2	10.5	5.0	5.3	
2.5	5.7	3.6	5.1	5.4	4.6	5.2	3.1	4.6	5.0	6.9	3.8	4.7	1.7	3.9	3.9	
5.5	5.8	6.1	6.4	10.5	8.2	6.7	6.2	6.7	7.4	8.0	8.6	7.9	6.4	5.7	6.4	
39.5	12.7	2.8	8.1	4.1	1.9	8.8	21.3	3.8	1.0	2.7	2.8	2.5	1.1	1.6	1.8	
10.6	4.7	1.5	4.7	2.2	2.7	3.8	6.8	3.9	1.8	3.0	3.1	3.0	.9	1.6	1.9	
32.0	54.3	77.4	55.8	62.3	66.5	59.3	49.4	56.4	59.6	57.1	56.8	57.4	77.5	67.6	65.6	
12.7	22.4	12.3	25.0	20.9	22.7	21.4	16.5	29.2	30.3	29.5	28.7	29.2	14.1	23.5	24.2	
30.2	16.2	37.1	27.9	16.1	21.4	21.9	44.1	8.2	2.5	3.3	5.6	5.0	11.2	5.9	6.4	
29.1	21.0	44.7	35.4	47.3	36.7	36.4	29.8	44.1	81.3	77.9	73.2	74.2	59.0	39.1	50.8	
5.1	6.8	5.3	5.7	18.4	7.8	7.8	5.1	9.2	5.3	4.9	6.4	6.4	9.6	35.2	24.4	
7.0	30.7	3.6	4.8	5.2	6.7	26.6	14.1	5.9	3.1	3.6	6.5	5.1	12.3	11.5	9.9	
3.5	1.9	4.1	2.4	5.9	3.7	3.0	2.9	8.2	4.7	2.7	5.0	5.1	3.2	1.8	2.8	
5.0	3.3	5.0	3.9	7.1	3.7	4.1	4.1	4.4	3.1	7.7	3.3	4.2	4.8	6.4	5.6	
24.9	24.1	37.6	38.7	30.0	37.5	30.5	25.8	32.6	32.3	40.4	35.2	34.1	38.1	17.6	24.5	
18.3	16.7	16.1	12.2	8.0	10.5	13.4	13.4	5.9	4.5	4.9	7.6	6.1	12.4	11.5	10.2	
10.7	11.6	6.1	7.9	12.5	12.0	10.3	10.0	7.7	9.9	6.0	9.8	8.8	8.1	10.0	9.5	
6.4	9.1	3.4	3.1	4.7	7.6	6.7	6.3	2.1	1.9	2.7	6.8	4.1	8.5	11.4	9.2	
1.0	2.6	.8	1.1	1.7	.9	1.8	1.4	2.8	3.3	2.2	6.1	4.2	1.8	2.3	2.7	
33.7	32.5	30.9	33.0	35.9	27.9	32.2	38.9	44.6	45.1	36.1	35.2	38.4	26.4	40.7	38.2	
5.0	3.3	5.0	3.9	7.1	3.7	4.1	4.1	4.4	3.1	7.7	3.3	4.2	4.8	6.4	5.6	
4.2	7.4	7.7	9.2	8.3	3.5	7.4	6.4	7.2	8.2	12.6	7.7	8.6	4.8	6.0	6.5	
10.8	19.5	16.8	16.6	15.8	12.7	17.5	16.5	14.6	16.5	12.6	15.2	15.5	12.6	13.1	13.6	
11.3	16.3	12.7	13.5	7.8	15.4	14.3	13.1	11.8	15.0	12.6	13.8	13.5	16.4	15.0	14.8	
8.0	6.9	3.9	6.5	3.3	9.3	6.2	5.6	6.2	5.8	6.8	7.8	6.9	7.2	7.2	7.1	
16.8	13.8	23.4	16.1	26.7	12.2	16.9	14.8	17.2	16.3	11.7	14.0	14.7	13.7	14.5	13.9	
4.6	3.3	2.5	6.2	2.6	4.6	3.4	3.4	2.6	4.1	3.0	6.3	4.6	3.0	3.7	5.3	
7.7	7.6	4.2	4.1	5.0	6.5	6.1	7.9	8.5	9.3	6.8	8.2	8.3	11.2	8.0	8.5	
4.7	3.7	4.4	3.1	3.8	6.0	4.0	4.7	4.1	4.4	4.4	3.2	3.8	3.5	3.2	4.6	
11.1	13.4	7.3	10.1	7.3	10.4	11.0	12.5	11.3	8.4	10.7	9.8	9.9	9.9	10.0	10.0	
19.4	2.5	13.5	11.6	13.0	13.4	8.0	10.8	9.7	5.8	7.1	8.7	8.0	9.7	5.9	6.9	
3.6	5.7	3.4	5.0	6.4	6.2	5.4	4.4	6.9	6.4	8.2	5.3	6.3	3.9	7.5	6.7	

²/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981^{1/}

DOCTORATES: MEN

	1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	EMP. FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL MALE	21447	942	1376	526	2844	616	206	2429	6095	455	943	1013	2411	604	1003
MALE AS A PERCENT OF TOTAL DOCTORATES	68.5	92.8	85.4	90.4	88.7	84.6	88.8	96.1	91.0	70.7	70.6	71.5	71.0	66.1	87.2
U.S. CITIZENSHIP	76.1	71.1	76.7	80.6	75.6	64.9	71.8	45.9	62.6	87.3	88.4	84.6	86.6	81.1	58.7
FOREIGN CITIZENSHIP	20.2	24.0	20.4	17.5	21.1	32.3	26.2	49.3	33.6	10.3	10.1	11.5	10.7	16.6	38.8
UNKNOWN	3.7	4.9	2.9	1.9	3.4	2.8	1.9	4.8	3.8	2.4	1.5	3.9	2.7	2.3	2.5
MARRIED	63.7	49.0	52.9	61.0	53.1	51.3	52.4	61.8	56.4	54.1	58.6	59.9	58.3	65.1	75.4
NOT MARRIED	30.9	44.4	42.4	36.1	41.9	44.8	42.7	32.4	38.4	42.4	38.3	34.3	37.4	30.6	21.0
UNKNOWN	5.3	6.6	4.7	2.9	5.0	3.9	4.9	5.8	5.2	3.5	3.1	5.8	4.3	4.3	3.6
MEDIAN AGE AT DOCTORATE	31.8	29.1	28.3	31.1	29.0	29.1	30.1	30.6	29.6	28.5	29.3	30.2	29.5	30.3	31.8
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE	54.7	80.6	84.6	48.3	76.5	79.2	14.1	75.1	74.1	23.7	18.6	65.4	39.2	17.9	58.0
PERCENT WITH MASTERS	78.8	65.4	38.2	76.2	54.2	75.3	78.6	89.3	71.2	29.0	44.6	67.9	51.5	54.6	92.2
MEDIAN TIME LAPSE FROM BACC TO DOCT TOTAL TIME	8.8	7.0	6.0	8.4	6.7	6.9	7.7	7.9	7.2	6.3	6.7	7.5	7.0	7.6	8.1
REGISTERED TIME	6.2	6.2	5.2	6.4	5.7	5.9	6.1	5.6	5.7	5.6	5.9	6.3	6.0	6.0	5.5
POSTDOCTORAL STUDY PLANS	19.8	45.4	38.7	29.7	39.2	16.6	6.3	13.1	25.4	79.6	75.3	45.3	63.5	47.2	13.2
FELLOWSHIP	9.2	15.8	15.7	8.9	14.5	7.3	2.4	3.7	9.0	45.9	44.0	22.4	35.3	27.8	3.7
RESEARCH/ASSOC	7.9	28.9	20.9	19.8	23.3	6.2	2.9	7.6	14.6	24.8	18.8	18.5	19.8	9.4	8.6
TRAINERSHIP	1.0	.2	.8	.2	.5	1.5	.3	1.4	1.0	2.2	2.2	1.3	1.8	1.3	.8
OTHER	1.8	.5	1.3	.8	.9	1.6	.5	.4	.8	6.6	10.3	3.2	6.6	8.4	.1
PLANNED EMPLOYMENT AFTER DOCTORATE	74.0	47.0	55.3	66.7	54.7	77.8	89.8	80.1	68.3	15.8	20.8	47.7	31.1	48.0	81.7
EDUC. INSTITUTION	41.3	9.7	7.3	22.1	10.8	52.3	44.1	24.5	21.7	5.5	10.8	29.7	17.8	22.4	42.6
INDUSTRY/BUSINESS	16.6	27.1	42.8	27.6	34.8	18.5	35.4	42.7	36.3	8.6	5.9	6.8	6.8	13.9	15.6
GOVERNMENT	9.4	8.0	3.2	14.8	6.9	5.2	4.9	9.7	7.8	1.1	2.7	8.0	4.6	6.5	16.8
NONPROFIT	4.3	.6	1.0	.2	.7	.8	.5	1.6	1.1	.7	.7	1.6	1.1	3.3	1.8
OTHER & UNKNOWN	2.4	1.7	.9	2.1	1.4	1.0	2.9	1.7	1.5	.0	.6	.6	.9	2.0	4.9
POSTDOCT STATUS UNKN	6.2	7.5	6.0	3.6	6.1	5.7	3.9	6.8	6.3	4.6	3.9	7.0	5.4	4.8	5.2
DEFINITE POSTDOCTORAL STUDY	14.8	36.1	29.7	21.7	30.3	11.2	3.9	8.1	18.6	66.4	63.1	33.9	51.4	37.1	7.8
SEEKING POSTDOCTORAL STUDY	3.0	9.3	8.9	8.0	8.9	5.4	2.4	5.0	6.8	13.2	12.2	11.5	12.1	10.1	5.4
DEFINITE EMPLOYMENT	56.9	35.7	46.7	55.1	44.6	61.5	72.8	61.8	54.1	11.6	14.7	32.9	21.8	35.9	61.6
SEEKING EMPLOYMENT	17.2	11.4	8.6	11.6	10.1	16.2	17.0	18.4	14.2	4.2	6.0	14.8	9.4	12.1	20.0
EMPLOYMENT ACTIVITY AFTER DOCTORATE															
PRIMARY ACTIVITY															
R & D	31.3	76.2	82.4	55.5	74.6	43.8	62.7	62.7	65.1	69.8	47.5	47.4	49.7	48.4	57.4
TEACHING	36.6	16.1	10.1	23.4	14.7	47.8	26.7	21.7	22.2	11.3	25.9	35.1	30.3	24.9	22.5
ADMINISTRATION	13.4	1.5	1.4	3.4	1.9	1.3	3.3	2.5	2.2	3.8	5.0	5.4	5.1	9.7	2.8
PROF. SERVICES	10.9	1.5	2.6	6.9	3.3	3.2	2.7	5.5	4.2	9.4	14.4	6.6	9.0	9.7	4.4
OTH. B	3.0	1.8	.8	7.2	2.5	1.8	2.0	2.7	2.5	1.9	2.2	2.1	2.1	2.8	5.7
ACTIVITY UNKNOWN	4.9	3.0	2.6	3.4	2.9	2.1	2.7	4.9	3.7	3.8	5.0	3.3	3.8	4.6	7.3
SECONDARY ACTIVITY															
R & D	24.5	14.0	7.9	26.6	13.8	40.9	27.3	21.1	20.9	13.2	22.3	33.0	28.2	24.4	18.8
TEACHING	12.1	3.9	3.4	9.0	4.8	20.3	22.0	11.5	10.4	13.2	18.0	19.5	18.5	16.1	20.4
ADMINISTRATION	9.9	8.0	15.9	11.0	12.7	4.2	4.7	9.1	9.7	18.9	10.1	6.3	8.6	15.7	10.0
PROF. SERVICES	7.2	4.2	5.9	8.6	6.1	3.4	2.7	6.9	6.0	1.9	3.6	7.2	5.7	6.0	6.8
OTHER	1.8	1.8	1.4	1.4	1.5	.5	.0	1.5	1.3	.0	.7	1.5	1.1	.5	1.6
NO SECONDARY ACTIVITY	39.6	65.2	62.8	40.0	58.2	28.5	40.7	45.1	48.0	49.1	40.3	29.1	34.1	32.7	35.1
UNKNOWN	4.9	3.0	2.6	3.4	2.9	2.1	2.7	4.9	3.7	3.8	5.0	3.3	3.8	4.6	7.3
REGION OF EMPLOYMENT AFTER DOCTORATE															
NEW ENGLAND	6.2	7.4	5.0	4.1	5.4	7.9	11.3	6.1	6.3	5.7	5.0	6.3	5.9	4.6	1.9
MIDDLE ATLANTIC	14.6	19.6	24.6	7.2	19.3	15.6	20.7	16.5	17.7	17.0	15.8	10.5	12.4	13.8	4.9
EAST NO CENTRAL	13.6	8.0	18.4	7.2	13.1	18.2	5.3	12.1	12.9	11.3	17.3	7.5	10.5	18.0	9.5
WEST NO CENTRAL	6.2	3.0	3.3	2.4	3.0	4.0	4.7	3.3	3.3	3.8	7.2	6.5	6.3	6.5	10.2
SOUTH ATLANTIC	14.7	9.5	15.6	12.8	13.3	13.2	11.3	11.7	12.5	17.0	12.2	17.4	16.0	17.1	12.1
EAST SO CENTRAL	4.3	2.1	3.4	2.4	2.8	4.0	1.3	3.0	3.0	5.7	2.9	6.0	5.1	4.1	4.7
WEST SO CENTRAL	4.9	8.6	2.6	14.1	6.9	3.7	4.0	5.4	5.7	1.9	6.5	4.8	5.0	1.4	5.7
MOUNTAIN	8.2	7.7	11.4	20.7	12.5	8.7	7.3	8.5	10.0	5.7	10.1	9.0	9.0	9.2	5.5
PACIFIC & INSULAR	11.3	23.5	7.9	16.9	14.1	10.8	22.7	15.7	14.8	20.8	8.6	14.4	13.5	7.8	9.2
FOREIGN	10.9	7.1	3.9	9.3	6.0	10.0	8.7	13.7	10.1	11.3	11.5	14.7	13.5	12.0	32.2
REGION UNKNOWN	5.1	3.3	3.9	2.8	3.5	4.0	2.7	6.1	3.8	.0	2.9	3.0	2.7	3.5	4.0

^{1/}Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

DOCTORATES: MEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND AMER. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED ²
4018	1885	723	578	544	460	4190	14303	497	393	298	1010	2198	964	3955	7117	27
73.6	56.2	87.7	59.5	80.1	68.4	64.4	76.6	71.9	48.2	46.5	63.2	58.7	69.5	52.8	56.4	77.1
78.8	92.6	63.1	82.2	72.4	68.0	80.7	72.5	86.9	89.3	77.2	85.4	85.4	74.9	84.3	83.4	
18.6	3.7	32.9	14.7	19.7	24.3	14.8	23.9	10.5	7.4	17.1	10.6	10.9	20.9	12.1	12.9	
2.6	3.8	4.0	3.1	7.9	5.7	4.5	3.7	2.6	3.3	5.7	4.0	3.8	4.3	3.5	3.7	
63.6	58.8	59.9	65.1	61.9	67.8	61.2	59.8	63.8	62.1	57.0	59.9	60.8	71.5	77.6	71.6	
32.3	34.0	33.9	29.1	27.6	25.2	32.4	34.9	30.2	33.1	35.2	34.0	33.1	21.4	17.5	22.9	
4.1	5.2	6.2	5.9	10.5	7.0	6.3	5.2	6.0	4.8	7.7	6.1	6.1	7.2	6.9	5.6	
30.0	31.2	31.0	33.0	33.4	33.5	31.9	30.3	33.2	32.6	33.8	33.1	33.1	34.1	36.8	35.2	
40.7	48.5	63.1	61.6	49.1	28.0	59.6	60.5	64.2	79.1	55.4	54.4	61.1	36.3	34.8	43.2	
62.1	81.1	77.5	87.5	90.1	91.1	83.6	72.3	89.3	87.5	83.9	84.5	86.0	90.9	95.3	91.8	
7.3	8.2	8.0	9.9	10.2	10.2	8.8	7.4	10.8	10.0	10.7	10.1	10.4	10.8	13.0	11.9	
5.9	6.2	6.1	7.4	6.9	6.1	6.4	5.9	8.2	7.3	7.5	7.0	7.4	6.7	7.1	7.2	
48.5	17.3	4.6	13.0	6.8	4.6	11.7	27.9	7.2	2.5	6.0	5.9	5.6	1.8	2.9	3.6	
26.3	9.9	2.1	5.7	3.5	1.3	6.2	13.0	3.6	1.5	2.0	2.6	2.5	.8	.9	1.4	
15.4	3.1	1.2	4.8	1.8	2.2	2.7	11.4	1.2	.3	2.3	.6	.9	.5	1.0	.9	
1.5	2.7	.6	.2	.4	.2	1.4	1.2	.4	.0	.0	.3	.2	.3	.5	.4	
5.3	1.7	.7	2.2	1.1	.9	1.4	2.2	2.0	.8	1.7	2.5	2.0	.1	.6	.9	
46.3	76.9	89.3	80.4	81.8	86.7	81.2	65.9	86.7	89.1	86.2	86.5	87.0	91.5	91.7	90.2	
24.6	29.3	55.9	56.9	46.5	52.8	42.5	28.6	61.8	77.1	72.8	67.8	68.8	64.0	66.1	66.6	
10.1	13.7	10.7	6.2	8.3	13.0	11.4	21.6	8.5	6.9	5.4	5.4	6.4	9.1	5.8	6.4	
7.9	16.3	15.8	8.7	18.0	11.7	14.9	9.9	8.2	2.0	3.0	3.1	4.0	5.2	11.7	8.5	
1.6	13.4	3.7	5.0	4.6	5.2	8.5	3.4	4.2	1.0	.7	7.6	4.7	12.2	5.4	6.1	
2.1	4.1	3.3	3.6	4.4	3.9	3.9	2.4	4.0	2.0	4.4	2.6	3.0	.9	2.7	2.6	
5.2	5.8	6.1	6.6	11.4	8.7	7.0	6.2	6.0	8.4	7.7	7.5	7.4	6.7	5.4	6.2	
38.4	12.8	3.2	8.5	4.0	2.6	8.3	21.2	4.0	1.5	3.4	3.0	3.0	1.1	1.5	1.9	
10.1	4.5	1.4	4.5	2.8	2.0	3.4	6.7	3.2	1.0	2.7	3.0	2.6	.6	1.4	1.7	
33.8	56.6	77.2	56.9	61.6	65.7	61.8	50.7	60.0	64.4	64.1	58.5	60.6	80.6	71.2	69.2	
12.4	20.3	12.2	23.5	20.2	21.1	19.4	15.3	26.8	24.7	22.1	28.0	26.3	10.9	20.5	21.0	
53.0	16.8	36.6	28.6	14.3	22.5	22.9	47.8	8.4	2.4	5.8	5.9	5.8	11.8	6.4	7.1	
25.9	21.3	45.2	55.6	47.2	55.0	38.1	28.6	64.4	80.2	75.4	74.5	73.4	58.3	35.9	48.5	
4.8	7.1	5.6	4.6	19.4	7.9	8.1	4.8	8.4	6.5	5.2	5.9	6.5	8.5	40.0	25.9	
7.0	49.8	3.4	5.2	6.0	7.3	23.5	11.6	5.4	2.8	4.2	6.1	5.0	13.1	10.9	9.7	
3.8	1.8	4.3	2.1	6.0	3.0	3.1	3.0	8.7	5.9	2.1	4.6	5.4	3.5	1.7	3.0	
5.5	1.2	5.0	4.0	7.2	4.3	4.3	4.3	4.7	2.4	7.3	3.0	3.9	4.8	7.0	5.8	
23.3	24.7	37.3	38.9	29.6	35.1	31.0	25.0	33.9	34.4	42.9	31.8	34.4	37.5	15.3	23.9	
19.0	17.0	15.9	10.9	8.7	11.6	14.3	13.4	6.0	4.7	5.2	7.6	6.4	14.0	10.9	10.2	
10.4	11.9	6.3	8.2	12.5	12.9	10.4	10.1	8.4	10.7	6.8	11.3	9.9	8.2	10.1	9.7	
6.3	9.6	3.8	3.3	4.8	6.4	6.2	2.3	1.6	3.1	6.9	4.4	7.7	10.8	8.6		
1.3	1.9	.9	.9	2.1	.7	1.4	1.3	2.3	2.8	2.6	5.9	4.1	1.8	1.8	2.4	
34.5	31.8	30.8	33.7	35.2	28.8	31.9	39.7	42.3	43.5	31.9	33.3	37.1	26.0	44.2	39.4	
5.5	3.2	3.0	4.0	7.7	4.3	4.3	4.3	4.7	2.4	7.3	3.0	3.9	4.8	7.0	5.8	
3.9	7.0	7.2	7.9	7.5	3.0	6.8	6.0	7.0	7.1	15.7	7.6	8.6	4.5	6.0	6.5	
9.3	18.9	16.5	14.9	15.2	12.6	16.7	15.7	12.1	16.2	13.1	13.9	13.8	12.2	12.9	13.0	
11.3	16.7	12.4	11.9	9.0	14.6	13.9	12.9	10.7	14.2	13.6	13.4	13.0	16.0	14.8	14.5	
8.1	7.4	3.8	6.7	3.6	9.3	6.3	5.3	6.4	6.7	7.9	8.5	7.6	6.8	7.7	7.6	
14.4	12.9	24.0	17.3	26.0	11.6	17.4	14.6	16.4	14.2	11.0	13.2	13.8	15.7	15.3	15.0	
4.8	3.9	2.5	4.6	3.3	4.6	3.7	3.6	2.3	4.7	3.7	6.9	5.0	5.4	5.6	5.4	
7.4	8.4	3.9	3.6	5.1	6.6	6.2	8.2	8.7	7.9	4.7	8.3	7.8	92.2	7.1	8.1	
4.7	4.4	4.3	3.6	3.6	5.3	4.3	5.0	4.4	4.7	3.7	2.7	3.6	3.3	5.8		
10.7	12.1	7.7	12.2	6.0	9.3	10.0	12.3	12.1	10.7	10.5	9.5	10.4	9.1	9.4	9.7	
21.8	2.7	14.2	12.8	14.9	16.6	9.7	12.1	11.4	7.9	8.9	11.0	10.2	10.7	8.2	9.2	
3.8	5.4	3.6	4.6	6.0	6.6	5.1	4.3	8.4	5.5	7.3	5.1	6.2	4.0	7.0	6.3	

²/Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 2
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY FIELD OF DOCTORATE, 1981^{1/}

DOCTORATES: WOMEN

		1981 TOTAL	PHYSICS AND ASTRONOMY	CHEMISTRY	EARTH, ENVIRONMENTAL AND MARINE SCIENCES	PHYSICAL SCIENCES	MATHEMATICS	COMPUTER SCIENCES	ENGINEERING	EMP. FIELDS	BIOCHEMISTRY	BASIC MEDICAL SCIENCES	OTHER BIOSCIENCES	BIOSCIENCES	MEDICAL SCIENCES	AGRICULTURAL SCIENCES
TOTAL FEMALE		9872	73	235	56	344	112	26	99	601	189	393	404	986	310	147
FEMALE AS A PERCENT OF TOTAL DOCTORATES	X	31.5	7.2	14.6	9.6	11.3	15.4	11.2	1.9	9.0	29.3	29.4	28.5	29.0	33.9	12.8
U.S. CITIZENSHIP	X	87.9	61.6	75.7	83.9	74.2	71.4	76.9	53.5	70.4	82.5	91.1	85.4	87.1	85.5	65.3
FOREIGN CITIZENSHIP		8.7	37.0	21.3	14.3	23.4	26.8	23.1	44.4	27.5	14.3	7.4	12.1	10.6	11.3	30.6
UNKNOWN		3.5	1.4	3.0	1.8	2.3	1.8	.0	2.0	2.2	3.2	1.5	2.5	2.2	3.2	4.1
MARRIED	X	52.2	61.6	51.9	44.6	52.7	41.1	69.2	55.6	51.7	46.6	46.1	45.5	45.9	47.4	57.1
NOT MARRIED		42.8	34.2	44.7	50.0	43.4	52.7	30.8	40.4	44.1	49.7	50.9	50.5	50.5	47.4	37.4
UNKNOWN		5.0	4.1	3.4	5.4	3.8	6.3	.0	4.0	4.2	3.7	3.1	4.0	3.5	5.2	5.4
MEDIAN AGE AT DOCTORATE		33.8	29.6	28.4	29.9	28.0	29.5	30.2	29.0	29.0	28.8	29.3	30.0	29.5	33.7	30.5
PERCENT WITH BACC IN SAME FIELD AS DOCTORATE		50.3	79.5	84.7	42.9	77.2	85.7	11.5	51.5	71.7	18.0	19.6	68.8	39.5	43.9	40.8
PERCENT WITH MASTERS		84.5	71.2	39.1	69.6	50.3	83.9	96.2	90.9	65.2	30.2	43.0	62.9	48.7	72.3	88.4
MEDIAN TIME LAPSE FROM BACC TO DOCT TOTAL TIME	YRS	10.8	7.6	6.1	7.6	6.6	7.3	7.8	7.1	6.9	6.9	6.8	7.7	7.2	10.9	7.6
REGISTERED TIME		6.7	6.7	5.2	5.8	5.6	5.9	6.6	6.0	5.8	5.9	5.8	6.4	6.0	6.1	5.6
POSTDOCTORAL STUDY PLANS	X	15.0	46.6	37.0	25.0	37.1	8.0	7.7	13.1	26.5	75.1	76.1	52.2	66.1	31.9	17.0
FELLOWSHIP		8.2	23.3	18.3	12.5	18.4	3.6	.0	4.0	12.5	43.9	50.9	30.0	41.0	17.7	5.4
RESEARCH ASSOC		4.3	23.3	17.9	12.5	18.1	3.6	3.8	7.1	13.0	25.9	19.1	16.6	19.4	7.4	10.9
TRAINERSHIP		1.1	.0	.9	.0	.5	.9	3.8	2.0	1.0	2.1	1.8	1.5	1.7	2.3	.7
OTHER		1.4	.0	.0	.0	.0	.0	.0	.0	.0	3.2	4.3	4.2	4.1	4.5	.0
PLANNED EMPLOYMENT AFTER DOCTORATE	X	78.5	45.2	56.6	42.5	55.2	84.8	92.3	82.8	66.9	18.0	20.1	39.9	27.8	63.2	72.8
EDUC. INSTITUTION		51.0	13.7	7.7	16.1	10.2	41.6	50.0	29.3	24.6	5.3	11.7	25.0	15.9	37.1	39.5
INDUSTRY/BUSINESS		9.0	17.8	40.0	28.6	33.8	15.2	34.6	42.4	31.8	6.3	4.3	7.4	6.0	6.8	12.2
GOVERNMENT		7.5	5.3	6.0	16.1	7.4	4.5	3.8	7.1	6.7	4.2	2.0	4.0	3.2	8.7	13.6
NONPROFIT		5.4	1.4	1.3	.0	1.1	.9	.0	1.0	1.0	.0	.5	1.5	.8	5.8	2.7
OTHER & UNKNOWN		5.3	6.8	1.7	1.8	2.7	2.7	3.8	3.0	2.8	2.1	1.5	2.0	1.8	4.8	4.8
POSTDOCT STATUS UNKN	X	6.5	8.2	6.4	12.5	7.7	7.1	.0	4.0	6.7	6.9	3.8	7.9	6.1	6.8	10.2
DEFINITE POSTDOCTORAL STUDY		10.5	35.6	31.9	17.9	30.5	3.6	7.7	8.1	20.8	61.9	62.8	38.1	52.5	22.3	10.9
SEEKING POSTDOCTORAL STUDY		4.5	11.0	5.1	7.1	6.6	4.5	.0	5.1	5.7	13.2	13.2	14.1	13.6	9.7	6.1
DEFINITE EMPLOYMENT		54.1	31.5	46.8	50.0	44.2	64.3	65.4	65.7	52.4	11.6	13.2	24.0	17.3	48.4	44.2
SEEKING EMPLOYMENT		24.4	13.7	9.8	12.5	11.0	20.5	26.9	17.2	14.5	6.3	6.9	15.8	10.4	14.8	28.6
EMPLOYMENT ACTIVITY AFTER DOCTORATE																
PRIMARY ACTIVITY																
R & D	X	14.7	82.6	83.6	60.7	79.5	34.1	41.2	58.5	63.2	77.3	51.9	30.9	43.3	30.7	55.4
TEACHING		46.8	13.0	8.2	14.3	9.9	58.3	52.9	32.3	27.9	13.6	38.5	46.4	39.8	46.0	29.2
ADMINISTRATION		16.2	.0	2.7	7.1	3.1	.0	.0	.0	1.6	4.5	3.8	6.2	5.3	9.3	1.5
PROP. SERVICES		15.0	4.3	1.8	3.4	2.5	2.8	.0	4.6	2.9	4.5	3.8	9.3	7.0	9.3	3.1
OTHER		2.6	.0	2.7	7.1	3.1	.0	.0	.0	1.6	.0	1.9	3.1	2.3	1.3	4.6
ACTIVITY UNKNOWN		4.7	.0	.9	7.1	1.9	2.8	5.9	4.6	2.9	.0	.0	4.1	2.3	3.3	6.2
SECONDARY ACTIVITY																
R & D		26.7	13.0	6.4	14.3	8.7	48.6	47.1	27.7	23.8	13.6	25.0	35.1	29.2	32.7	29.2
TEACHING		11.5	8.7	.9	3.6	2.5	16.7	5.9	7.7	7.0	18.2	21.2	14.4	17.0	16.7	12.3
ADMINISTRATION		9.3	4.3	9.1	10.7	8.7	.0	.0	3.1	5.1	9.1	11.5	6.2	8.2	16.7	9.2
PROP. SERVICES		8.9	4.3	7.3	10.7	7.5	2.8	.0	4.6	5.4	.0	7.7	5.2	5.3	9.3	4.6
OTHER		2.6	.0	.0	3.6	.6	1.4	.0	.0	.0	.0	.0	.0	.0	.7	.0
NO SECONDARY ACTIVITY		36.3	69.6	75.5	50.0	70.2	27.8	41.2	52.3	55.2	59.1	34.6	35.1	38.0	20.7	38.5
UNKNOWN		4.7	.0	.9	7.1	1.9	2.8	5.9	4.6	2.9	.0	.0	4.1	2.3	3.3	6.2
REGION OF EMPLOYMENT AFTER DOCTORATE																
NEW ENGLAND	X	7.1	13.0	4.5	7.1	6.2	11.1	5.9	12.3	8.6	9.1	7.7	5.2	6.4	4.0	4.6
MIDDLE ATLANTIC		16.3	34.8	29.1	17.9	28.0	16.7	5.9	26.2	23.8	22.7	11.5	12.6	13.5	20.7	13.8
EAST NO CENTRAL		14.6	8.7	15.5	.0	11.8	11.1	5.9	7.7	10.5	13.6	17.3	11.3	13.5	14.0	.0
WEST NO CENTRAL		6.3	.0	4.5	7.1	4.3	2.8	5.9	3.1	3.8	.0	9.6	9.3	8.2	7.3	7.7
SOUTH ATLANTIC		16.7	4.3	17.3	7.1	13.7	15.3	17.6	9.2	13.3	27.3	17.3	17.5	18.7	14.7	13.8
EAST SO CENTRAL		4.2	.0	1.8	.0	1.2	5.6	.0	.0	1.9	4.5	3.8	3.1	3.5	2.0	4.6
WEST SO CENTRAL		8.6	8.7	2.7	21.4	6.8	12.5	35.3	7.7	9.8	4.5	11.5	12.4	11.1	6.0	9.2
MOUNTAIN		6.0	8.7	1.8	3.6	3.1	1.4	5.9	.0	2.2	4.5	.0	7.2	4.7	4.7	4.6
PACIFIC & INSULAR		11.4	13.0	17.3	21.4	17.4	11.1	11.8	18.5	15.9	4.5	13.5	11.3	11.1	14.7	10.8
FOREIGN		4.6	8.7	2.7	3.6	3.7	12.5	.0	10.8	7.0	4.5	5.8	9.3	7.6	6.0	30.8
REGION UNKNOWN		6.5	.0	2.7	10.7	3.7	.0	5.9	4.8	3.2	4.5	1.9	1.0	1.8	6.0	.0

^{1/}Refer to explanatory note on page 24 and the description of doctoral fields inside back cover.

TABLE 2. CONTINUED

DOCTORATES: WOMEN

LIFE SCIENCES	PSYCHOLOGY	ECONOMICS	ANTHROPOLOGY AND SOCIOLOGY	POLIT. SCI., PUBLIC ADMIN., INTERN'L REL.	OTHER SOCIAL SCIENCES	SOCIAL SCIENCES INCL. PSYCHOL.	TOTAL SCIENCES	HISTORY	ENG. AND ARCH. LANG. AND LIT.	FOREIGN LANG. AND LIT.	OTHER HUMANITIES	HUMANITIES	PROFESSIONAL FIELDS	EDUCATION	TOTAL NON-SCIENCES	OTHER OR UNSPECIFIED ²
1443	1472	101	394	135	213	2315	1549	194	423	343	587	1547	424	3534	5505	8
26.4	43.8	12.3	40.3	19.9	31.6	35.4	23.4	28.1	51.8	53.5	36.8	41.3	30.5	47.2	43.6	22.9
84.5	92.5	71.3	85.5	88.1	88.7	89.8	85.4	88.7	92.2	79.9	84.8	86.2	90.3	91.4	89.8	
12.8	3.9	24.8	11.7	7.4	6.6	6.6	11.5	7.2	5.2	16.3	8.7	5.2	7.1	5.0	6.4	
2.6	3.6	4.0	2.8	6.4	4.7	3.6	3.1	4.1	2.6	3.8	6.5	4.5	2.6	3.6	3.8	
47.4	47.4	51.5	50.5	48.9	47.4	48.2	48.4	52.6	53.4	53.1	49.4	51.7	55.6	57.0	55.3	
48.5	47.4	42.6	45.2	45.9	46.5	46.6	46.9	41.8	41.8	40.2	41.6	41.4	42.5	38.3	39.5	
4.1	5.3	5.9	4.3	5.2	6.1	5.2	4.7	5.7	4.7	4.7	9.0	6.9	3.8	4.6	5.2	
30.2	31.7	30.1	33.5	33.4	33.6	32.2	31.0	34.2	34.4	34.4	33.8	34.1	34.4	38.0	36.6	
40.5	63.9	62.4	58.4	48.9	22.5	58.2	54.2	61.9	75.7	63.6	48.2	60.8	30.7	43.4	47.3	
57.8	81.8	77.2	87.1	85.9	90.6	83.5	72.5	89.2	90.5	86.0	88.9	88.8	94.1	96.2	94.0	
7.6	8.6	8.1	10.2	10.9	10.0	9.2	8.3	11.8	11.6	11.1	11.2	11.4	11.9	14.2	13.0	
6.0	6.3	6.0	7.6	7.5	6.3	6.5	6.2	8.6	8.2	8.0	8.0	8.1	6.6	6.9	7.2	
33.8	17.7	2.0	12.7	4.4	4.7	14.2	29.0	8.8	3.1	5.2	5.8	5.3	2.4	3.6	4.0	
32.4	9.3	.0	8.6	2.2	1.9	7.7	16.5	5.7	1.4	2.3	2.7	2.7	1.2	1.1	1.6	
15.9	3.1	2.0	3.0	1.5	1.4	2.8	8.4	1.5	.0	.3	1.5	.8	.7	.9	.9	
1.7	3.6	.0	.0	.7	.5	2.4	2.0	.0	.0	.0	.2	.1	.2	.7	.5	
3.7	1.6	.0	1.0	.0	.9	1.3	1.9	1.3	1.7	2.6	1.4	1.7	.2	.8	1.0	
40.0	76.6	92.1	81.2	88.9	89.3	79.8	64.9	83.0	90.5	86.6	83.6	86.1	92.0	90.4	89.3	
22.9	30.3	54.5	54.1	46.7	57.3	38.8	31.6	55.2	72.6	67.9	62.7	65.6	67.7	66.5	66.3	
6.8	11.4	14.9	3.6	9.6	13.1	10.6	12.3	9.3	8.0	6.4	7.8	7.8	8.3	5.7	6.5	
5.5	12.7	8.9	6.3	17.8	8.9	11.4	8.8	5.7	.9	1.7	2.4	2.5	5.9	8.4	6.5	
2.1	14.3	7.9	7.9	5.2	2.8	11.3	6.8	6.7	1.2	1.5	4.9	3.4	6.6	4.5	4.3	
2.8	7.9	5.9	7.4	9.6	6.1	7.6	5.4	6.2	7.8	9.0	5.8	7.1	3.5	5.2	5.6	
6.2	5.8	5.9	6.1	6.7	7.0	6.0	6.2	8.2	6.4	8.2	10.6	8.6	5.7	6.1	6.7	
41.8	12.4	.0	7.6	4.4	.5	9.6	21.8	3.1	.5	2.0	2.4	1.9	.9	1.6	1.7	
12.0	5.1	2.0	3.1	.0	4.2	4.6	7.2	5.7	2.6	3.2	3.4	3.4	1.4	1.9	2.3	
26.7	51.4	79.2	54.1	65.2	62.0	54.9	45.2	47.4	55.1	51.0	53.8	52.7	70.5	63.6	61.1	
13.2	25.1	12.9	27.2	23.7	26.3	23.0	19.6	35.6	35.5	35.6	29.8	33.4	21.5	26.8	28.2	
40.4	15.5	41.3	26.8	22.7	18.9	19.8	30.8	7.6	2.6	.6	5.1	3.7	9.4	5.3	5.3	
40.4	20.4	41.3	54.9	47.7	60.6	33.7	34.1	63.0	82.4	80.6	70.9	75.4	60.9	45.6	54.2	
6.2	6.3	5.0	7.5	14.8	7.6	7.2	6.1	12.0	4.3	4.6	7.3	6.4	12.4	29.3	22.2	
7.3	52.0	5.0	4.2	2.3	5.3	32.8	23.0	7.6	3.4	2.9	7.3	5.3	10.0	12.2	10.3	
2.3	2.1	2.5	2.8	5.7	5.3	2.8	2.5	6.5	3.4	3.4	5.7	4.7	2.3	1.9	2.6	
3.4	3.4	3.0	3.8	6.8	2.3	3.7	3.5	3.3	3.9	8.0	3.8	4.7	5.0	5.7	5.4	
30.6	23.4	40.0	38.5	31.8	42.4	29.5	28.8	28.3	30.0	37.7	35.8	33.7	39.8	20.4	25.4	
16.1	16.4	17.5	14.1	5.7	8.3	14.5	13.6	5.4	4.3	4.6	7.6	5.8	8.0	12.2	10.3	
11.7	11.2	5.0	7.5	12.5	9.8	10.2	9.6	5.4	9.0	5.1	7.0	7.7	7.7	10.0	9.0	
6.7	8.5	1.3	2.8	4.5	9.8	6.9	6.6	1.1	2.1	2.3	6.6	3.8	10.4	12.5	10.2	
.3	3.6	.0	1.4	.0	1.5	2.5	1.8	4.3	3.9	1.7	6.3	4.4	1.7	2.8	3.1	
31.3	33.6	31.3	31.9	38.6	25.8	32.7	36.0	52.2	46.8	40.6	32.9	40.7	27.4	36.3	36.4	
3.4	3.4	5.0	3.8	6.8	2.3	3.7	3.5	3.3	3.9	8.0	3.8	4.7	5.0	5.7	5.4	
5.2	7.9	11.3	11.3	11.4	4.5	8.6	7.9	7.6	9.4	9.1	7.9	8.6	5.7	6.1	6.7	
16.3	20.2	18.8	19.2	18.2	12.9	19.1	19.3	22.8	16.7	18.9	17.7	18.3	13.7	13.4	14.6	
11.4	15.7	15.0	16.0	3.4	17.4	15.0	13.6	15.2	15.9	11.4	14.6	14.3	17.4	15.1	15.1	
7.8	6.2	5.0	6.1	2.3	9.1	6.1	6.1	5.4	4.7	5.7	6.6	5.8	8.4	6.5	6.5	
16.3	15.1	10.8	14.1	29.5	13.6	16.0	15.6	19.6	18.5	12.6	15.5	16.2	15.7	18.0	17.3	
3.1	2.4	2.5	3.8	.0	4.5	2.7	2.6	3.3	3.4	2.3	5.1	3.8	4.0	5.7	5.1	
8.8	6.3	6.3	4.7	4.5	6.1	5.9	7.1	7.6	11.2	9.1	7.9	9.1	8.4	9.2	9.1	
4.7	1.6	5.0	2.3	4.5	7.6	3.4	3.5	3.3	3.4	5.7	4.1	4.2	4.0	4.4	4.3	
11.4	15.3	6.3	7.0	12.5	12.9	13.3	8.7	6.0	10.9	10.4	9.1	12.0	10.5	10.5	10.5	
11.9	2.1	8.8	9.9	5.7	6.1	4.5	6.1	4.3	3.4	5.1	4.4	4.3	7.0	2.9	3.6	
1.1	6.1	2.5	5.6	8.0	5.3	5.8	4.9	2.2	7.3	9.1	5.7	6.5	3.7	8.2	7.4	

²Statistics are not presented for this group because too few records contained the specified data.

SOURCE: NRE, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 3
PERCENTAGE OF 1981 DOCTORATE RECIPIENTS BY SOURCES OF SUPPORT IN GRADUATE SCHOOL, BY SEX AND SUMMARY FIELD^{1/}

SOURCES OF SUPPORT IN GRADUATE SCHOOL		DOCTORATE RECIPIENTS BY FIELD									
		PHYSICAL SCIENCES ^{2/}	ENGI-NEERING	LIFE SCIENCES	SOCIAL SCIENCES	HUMANITIES	PROP. FIELDS	EDUCATION	TOTAL		
		MEN/WOMEN	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN		
NSF FELLOWSHIP	N	208/ 25	85/ 2	95/ 33	95/ 43	10/ 7	3/ 1	22/ 8	518/ 139		
	VX	6.0/ 5.2	3.7/ 2.1	2.5/ 3.9	2.4/ 2.0	.5/ .3	.3/ .2	.6/ .2	2.6/ 1.5		
	HX	40.2/ 18.0	18.4/ 1.4	18.3/ 38.1	18.3/ 30.9	1.9/ 5.0	.6/ .7	4.2/ 5.8	100.0/100.0		
NSF TRAINEESHIP	N	34/ 4	34/ 3	33/ 13	27/ 22	1/ 4	1/ 2	1/ 3	151/ 53		
	VX	1.0/ .8	1.3/ 3.2	.9/ 1.1	.7/ 1.0	.0/ .3	.1/ .5	.0/ .1	.7/ .8		
	HX	35.8/ 7.5	22.5/ 5.7	21.9/ 28.3	17.9/ 41.5	.7/ 7.5	.7/ 3.8	.7/ 5.7	100.0/100.0		
NIM FELLOWSHIP ^{2/}	N	37/ 4	14/ 0	176/ 72	109/ 105	1/ 2	5/ 10	7/ 9	349/ 202		
	VX	1.1/ .8	.6/ .0	4.6/ 3.3	2.8/ 4.8	.0/ .1	.6/ 2.5	.2/ .3	1.7/ 2.2		
	HX	10.6/ 2.0	4.0/ .0	50.4/ 35.6	31.2/ 52.0	.3/ 1.0	1.4/ 5.0	2.0/ 4.5	100.0/100.0		
NIM TRAINEESHIP ^{3/}	N	50/ 12	35/ 2	669/ 313	209/ 160	2/ 1	7/ 11	5/ 18	977/ 517		
	VX	1.4/ 2.5	1.5/ 2.1	17.5/ 22.9	5.3/ 7.3	.1/ .1	.8/ 2.7	.1/ .5	4.8/ 5.6		
	HX	5.1/ 2.3	3.6/ .4	68.5/ 60.5	21.4/ 30.9	.2/ .2	.7/ 2.1	.5/ 3.5	100.0/100.0		
NOEA FELLOWSHIP	N	13/ 4	8/ 0	13/ 9	70/ 38	128/ 81	4/ 3	31/ 13	267/ 148		
	VX	.6/ .8	.3/ .0	.3/ .7	1.8/ 1.7	6.2/ 5.6	.5/ .7	.8/ .4	1.3/ 1.6		
	HX	4.9/ 2.7	3.0/ .0	4.9/ 6.1	26.2/ 25.7	47.9/ 54.7	1.5/ 2.0	11.6/ 8.8	100.0/100.0		
GRADUATE & PROP. OPPORTUNITIES PROGRAM	N	8/ 3	4/ 0	5/ 6	12/ 0	6/ 3	4/ 0	12/ 20	51/ 32		
	VX	.2/ .6	.2/ .0	.1/ .4	.3/ .0	.3/ .2	.5/ .0	.3/ .6	.3/ .3		
	HX	15.7/ 9.4	7.8/ .0	9.8/ 18.8	23.5/ .0	11.8/ 9.4	7.8/ .0	23.5/ 62.5	100.0/100.0		
NATIONAL DIRECT STUDENT LOANS	N	160/ 18	103/ 5	299/ 111	678/ 412	353/ 216	98/ 57	463/ 351	2156/ 1170		
	VX	4.6/ 3.8	4.5/ 5.3	7.8/ 8.1	17.3/ 18.8	17.1/ 15.0	11.0/ 14.0	12.4/ 10.6	10.7/ 12.6		
	HX	7.4/ 1.3	4.8/ .4	13.9/ 9.5	31.5/ 35.2	16.4/ 18.5	4.5/ 4.9	21.3/ 30.0	100.0/100.0		
OTHER NEW	N	30/ 6	29/ 1	111/ 88	206/ 234	12/ 13	44/ 63	121/ 146	553/ 551		
	VX	.9/ 1.3	1.3/ 1.1	2.9/ 6.4	5.3/ 10.7	.6/ .9	5.0/ 15.5	3.2/ 4.4	2.7/ 5.9		
	HX	5.4/ 1.1	5.2/ .2	20.1/ 16.0	37.3/ 42.5	2.2/ 2.4	8.0/ 11.4	21.9/ 26.5	100.0/100.0		
GI BILL	N	170/ 0	94/ 0	213/ 5	364/ 12	206/ 9	130/ 2	486/ 25	1663/ 53		
	VX	4.9/ .0	4.1/ .0	5.6/ .4	9.3/ .5	10.0/ .6	14.6/ .5	13.0/ .8	8.2/ .6		
	HX	10.2/ .0	5.7/ .0	12.8/ 9.4	21.9/ 22.6	12.4/ 17.0	7.8/ 3.8	29.2/ 47.2	100.0/100.0		
OTHER FEDERAL ^{4/} SUPPORT	N	215/ 13	216/ 7	214/ 62	298/ 147	94/ 43	27/ 19	101/ 76	1165/ 367		
	VX	6.2/ 2.7	9.4/ 7.4	5.6/ 4.5	7.6/ 6.7	4.6/ 3.0	3.0/ 4.7	2.7/ 2.3	5.8/ 3.9		
	HX	18.5/ 3.5	18.5/ 1.9	18.4/ 16.9	25.6/ 40.1	8.1/ 11.7	2.5/ 5.2	8.7/ 20.7	100.0/100.0		
OTHER NATIONAL ^{5/} FELLOWSHIP	N	70/ 17	31/ 7	88/ 45	144/ 81	125/ 124	13/ 13	42/ 69	513/ 356		
	VX	2.0/ 3.5	1.4/ 7.4	2.3/ 3.3	3.7/ 3.7	6.1/ 8.6	1.5/ 3.2	1.1/ 2.1	2.5/ 3.8		
	HX	13.6/ 4.8	6.0/ 2.0	17.2/ 12.6	28.1/ 22.8	24.4/ 34.8	2.5/ 3.7	8.2/ 19.4	100.0/100.0		
UNIVERSITY FELLOWSHIP	N	738/ 111	383/ 18	591/ 241	845/ 448	748/ 516	174/ 83	307/ 334	3786/ 1751		
	VX	11.2/ 23.1	16.7/ 18.9	15.5/ 17.6	21.6/ 20.5	36.2/ 35.9	19.6/ 20.4	8.2/ 10.1	18.8/ 18.8		
	HX	19.5/ 6.3	10.1/ 1.0	15.6/ 13.8	22.3/ 25.6	19.8/ 29.5	4.6/ 4.7	8.1/ 19.1	100.0/100.0		
TEACHING ASSISTANTSHIP	N	2,535/ 356	893/ 43	1594/ 555	2042/ 1099	1375/ 940	398/ 165	810/ 782	9567/ 3940		
	VX	70.6/ 74.2	39.0/ 45.3	41.7/ 40.6	52.2/ 50.3	66.6/ 65.5	44.8/ 40.6	21.7/ 23.5	47.4/ 42.4		
	HX	25.7/ 9.0	9.3/ 1.1	16.7/ 14.1	21.3/ 27.9	14.4/ 23.9	6.2/ 4.2	8.5/ 19.8	100.0/100.0		
RESEARCH ASSISTANTSHIP	N	2384/ 306	1570/ 69	1984/ 607	1402/ 694	275/ 159	216/ 106	599/ 491	8430/ 2434		
	VX	68.6/ 63.8	68.6/ 72.6	51.9/ 44.4	35.8/ 31.8	13.3/ 11.1	24.3/ 26.1	16.0/ 14.8	41.8/ 26.2		
	HX	28.3/ 12.6	18.6/ 2.8	23.5/ 24.9	16.6/ 28.6	3.3/ 6.5	2.6/ 4.4	7.1/ 20.2	100.0/100.0		
EDUC. FUNDS OF INDUSTRY	N	197/ 31	166/ 13	85/ 52	78/ 31	29/ 23	51/ 10	8/ 60	691/ 220		
	VX	5.7/ 6.5	7.3/ 13.7	2.2/ 3.8	2.0/ 1.4	1.4/ 1.6	5.7/ 2.5	2.3/ 1.8	3.4/ 2.4		
	HX	28.5/ 14.1	24.0/ 5.9	12.3/ 23.6	11.3/ 14.1	4.2/ 10.5	7.4/ 4.5	12.3/ 27.3	100.0/100.0		
OTHER INSTITUTION FUNDS	N	155/ 26	87/ 4	292/ 133	327/ 244	229/ 151	78/ 52	252/ 263	1420/ 873		
	VX	4.5/ 5.4	3.8/ 4.2	7.6/ 9.7	8.4/ 11.2	11.1/ 10.5	8.8/ 12.8	8.7/ 7.9	7.0/ 9.4		
	HX	10.9/ 3.0	6.1/ .5	20.6/ 15.2	23.0/ 27.9	16.1/ 17.3	5.5/ 8.0	17.7/ 30.1	100.0/100.0		
OWN EARNINGS	N	954/ 105	751/ 31	1246/ 496	2314/ 1349	1346/ 886	566/ 262	2930/ 2570	10107/ 5699		
	VX	27.4/ 21.9	32.8/ 32.6	32.6/ 36.3	59.2/ 61.7	65.2/ 61.7	63.7/ 64.5	78.4/ 77.4	50.1/ 61.3		
	HX	9.4/ 1.8	7.4/ .5	12.5/ 8.7	22.9/ 23.7	13.5/ 15.5	5.6/ 4.6	29.0/ 45.1	100.0/100.0		
SPOUSE'S EARNINGS	N	726/ 95	392/ 21	1085/ 341	1279/ 714	745/ 536	298/ 149	1263/ 1298	5788/ 3154		
	VX	20.9/ 19.8	17.1/ 22.1	28.4/ 24.9	32.7/ 32.6	36.1/ 37.3	33.6/ 36.7	33.8/ 39.1	28.7/ 33.9		
	HX	12.5/ 3.0	6.8/ .7	18.7/ 10.8	22.1/ 22.6	12.9/ 17.0	5.1/ 4.7	21.8/ 41.2	100.0/100.0		
FAMILY CONTRIBUTIONS	N	462/ 54	379/ 18	592/ 249	825/ 466	514/ 336	141/ 53	468/ 434	3381/ 1610		
	VX	13.3/ 11.3	16.6/ 18.9	15.5/ 18.2	21.1/ 21.3	24.9/ 23.4	15.9/ 13.1	12.5/ 13.1	16.7/ 17.3		
	HX	13.7/ 3.4	11.2/ 1.1	17.5/ 15.5	24.4/ 28.9	15.2/ 20.9	4.2/ 3.3	13.8/ 27.0	100.0/100.0		
OTHER LOANS	N	197/ 20	133/ 7	343/ 122	607/ 333	257/ 171	108/ 57	514/ 416	2159/ 1146		
	VX	5.7/ 4.2	5.8/ 7.4	9.0/ 8.9	15.5/ 16.1	12.4/ 11.9	12.2/ 14.0	13.8/ 12.5	10.7/ 12.3		
	HX	9.1/ 1.7	6.2/ .6	15.9/ 10.6	28.1/ 30.8	11.9/ 14.9	5.0/ 5.0	23.8/ 36.3	100.0/100.0		
OTHER	N	185/ 23	215/ 10	371/ 108	301/ 142	160/ 108	98/ 37	285/ 213	1615/ 641		
	VX	5.3/ 4.8	9.4/ 10.3	9.7/ 7.9	7.7/ 6.5	7.7/ 7.5	11.0/ 9.1	7.6/ 6.4	8.0/ 6.9		
	HX	11.5/ 3.6	11.3/ 1.6	23.0/ 16.8	18.6/ 22.2	9.9/ 16.8	6.1/ 5.8	17.6/ 33.2	100.0/100.0		
UNDUPLICATED TOTAL	N	3477/ 480	2287/ 95	3821/ 1367	3912/ 2187	2065/ 1436	888/ 406	3737/ 3322	20187/ 9295 ^{6/}		

^{1/}Data on 003-convertible-1110-0101-19-1222 because of a change in the survey question on source of support.

Frequencies as reported are not reliable but relative frequencies should serve as useful approximations.

^{2/}Includes mathematics and computer sciences.

^{3/}The sources NIM Fellowship and NIM Traineeship refer to support provided under the National Research Awards Act of 1974.

^{4/}Includes AEC/ERDA Fellowship and NASA Traineeship which were formerly shown separately.

^{5/}Includes Woodrow Wilson Fellowship which was formerly shown separately.

^{6/}The 35 individuals shown in Table 1 as having subfield "Other and Unspecified" and the Ph.D.'s who did not report source of support are omitted from this table.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 4
NUMBER OF DOCTORATE RECIPIENTS BY SEX, STATE OF DOCTORAL INSTITUTION, AND SUMMARY FIELD, 1981^{1/}

STATE OF DOCTORAL INSTITUTION	PHYSICAL SCIENCES ^{2/}		ENGI- NEERING		LIFE SCIENCES		NUMBER OF DOCTORATE RECIPIENTS BY FIELD								OTHER & UNSPEC.		TOTAL	
							SOCIAL SCIENCES		HUMANITIES		PROP. FIELDS		EDUCATION					
	MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN		MEN/WOMEN	
U.S. TOTAL	3666	502	2429	99	4018	1443	4190	2315	2198	1547	964	424	3955	3534	27	8	21447	9872
ALABAMA	16	4	10	1	30	13	24	8	6	4	5	4	74	52	0	0	165	88
ALASKA	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
ARIZONA	60	3	24	0	43	12	39	19	18	18	14	1	74	65	0	0	272	118
ARKANSAS	13	0	4	1	24	6	5	2	6	0	17	1	13	13	0	0	82	23
CALIFORNIA	599	86	417	18	442	176	613	351	265	168	98	32	263	256	12	4	2709	1091
COLORADO	90	5	55	0	75	10	83	55	28	21	11	7	134	91	0	0	476	189
CONNECTICUT	51	9	24	1	63	34	77	41	65	48	3	1	24	32	0	0	307	166
DELAWARE	6	2	11	0	4	5	8	3	6	6	0	0	1	5	0	0	36	21
D. C.	37	4	18	1	30	42	75	57	46	39	18	6	60	63	0	0	304	214
FLORIDA	69	10	34	0	83	21	140	65	35	36	33	20	356	259	0	0	750	411
GEORGIA	43	10	29	0	80	21	89	44	30	27	24	9	68	67	0	0	363	178
HAWAII	15	2	4	0	34	11	16	8	14	3	0	0	2	5	0	0	85	29
IDAHO	10	0	4	0	19	3	3	0	2	1	0	0	9	7	0	0	49	11
ILLINOIS	243	33	194	7	181	67	273	147	148	101	54	24	228	187	0	1	1321	567
INDIANA	114	11	109	1	123	34	131	51	102	58	42	14	118	111	1	0	740	282
IOWA	64	11	41	1	114	18	53	22	48	19	12	5	46	66	1	0	399	142
KANSAS	33	3	28	0	65	17	44	19	26	17	9	9	54	46	0	0	259	111
KENTUCKY	12	1	8	2	49	9	23	6	19	8	23	3	10	12	0	0	144	41
LOUISIANA	23	5	10	0	49	8	20	18	28	16	32	5	26	28	0	0	188	80
MAINE	4	0	0	0	5	1	3	1	2	1	0	0	8	1	0	0	22	4
MARYLAND	72	16	27	1	78	43	69	42	41	35	13	10	54	78	0	0	354	225
MASSACHUSETTS	265	37	173	15	149	80	255	121	140	101	46	17	233	213	0	0	1261	584
MICHIGAN	103	12	99	2	183	50	176	115	68	54	24	15	222	155	0	0	875	403
MINNESOTA	41	9	44	2	109	41	63	40	40	20	9	15	47	38	0	0	353	165
MISSISSIPPI	3	0	10	0	47	12	33	7	5	5	6	0	60	50	0	0	164	74
MISSOURI	45	8	51	3	72	17	78	40	27	21	22	9	92	65	0	0	387	163
MONTANA	5	1	0	0	11	1	7	6	1	0	0	0	5	1	0	0	29	9
NEBRASKA	21	2	7	1	55	11	37	8	14	10	7	4	33	26	0	0	174	62
NEVADA	1	1	0	0	5	1	2	5	1	0	0	0	8	6	0	0	17	13
NEW HAMPSHIRE	13	3	7	1	17	7	10	2	4	1	0	0	0	1	0	0	31	15
NEW JERSEY	104	23	58	3	73	26	69	46	64	46	16	4	75	62	0	0	459	210
NEW MEXICO	28	4	9	0	19	6	15	10	15	10	0	0	18	31	0	0	104	61
NEW YORK	393	39	207	12	345	184	489	342	251	230	75	58	266	307	1	2	2037	1174
NORTH CAROLINA	74	10	31	4	138	58	110	56	47	39	15	8	54	64	0	0	469	237
NORTH DAKOTA	9	0	0	0	23	0	11	5	4	1	0	0	7	9	0	0	54	15
OHIO	141	22	106	2	137	49	142	107	88	50	51	35	196	180	3	0	864	445
OKLAHOMA	24	4	35	2	54	13	45	19	20	9	12	1	69	45	0	0	259	93
OREGON	41	13	18	1	80	23	41	26	9	15	16	5	64	41	0	1	269	125
PENNSYLVANIA	191	25	137	7	138	63	200	119	118	91	56	27	250	191	3	0	1093	523
RHODE ISLAND	50	8	12	1	14	6	28	7	29	20	0	0	0	0	0	0	133	42
SOUTH CAROLINA	23	4	8	0	29	9	18	12	11	8	8	1	31	35	1	0	129	69
SOUTH DAKOTA	2	0	0	0	4	0	7	4	0	0	0	0	11	3	0	0	24	7
TENNESSEE	35	10	31	0	55	27	81	43	26	15	19	9	109	118	0	0	356	222
TEXAS	197	18	128	5	230	93	174	82	115	78	106	30	218	212	3	0	1171	518
UTAH	36	1	32	2	48	11	60	15	16	7	18	8	69	43	1	0	280	87
VERMONT	5	0	0	0	13	1	8	2	3	4	0	0	0	0	0	0	29	7
VIRGINIA	53	8	65	0	88	29	47	19	29	15	20	11	69	78	0	0	371	160
WASHINGTON	83	6	31	0	107	28	55	37	37	24	7	4	38	36	0	0	358	137
WEST VIRGINIA	4	0	7	0	20	5	12	3	6	2	0	0	24	22	0	0	75	32
WISCONSIN	80	14	46	2	130	36	99	51	63	39	23	12	56	51	1	0	518	205
WYOMING	17	1	4	0	13	3	10	7	0	0	0	0	9	7	0	0	53	18
PUERTO RICO	2	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4	6

^{1/}Refer to explanatory note on page 25.

^{2/}Includes mathematics and computer sciences.

SOURCE: NRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

TABLE 5
STATISTICAL PROFILE OF DOCTORATE RECIPIENTS BY RACIAL OR ETHNIC GROUP AND U.S. CITIZENSHIP STATUS, 1981^{1/}

		TOTAL				AMERICAN INDIAN	ASIAN				BLACK			
		U.S.	NON-U.S. PERM.	TEMP.	TOTAL		U.S.	NON-U.S. PERM.	TEMP.	TOTAL	U.S.	NON-U.S. PERM.	TEMP.	TOTAL
TOTAL NUMBER		24990	1272	3924	31319 ^{2/}	89	440	602	1559	2704 ^{2/}	1007	97	370	1483 ^{2/}
MALE	X	65.3	75.9	86.0	68.5	65.2	67.6	82.1	85.8	82.0	49.2	82.5	91.4	62.0
FEMALE		34.7	24.1	14.0	31.5	34.8	32.4	17.9	14.2	18.0	50.8	17.5	8.6	38.0
DOCTORAL FIELD														
PHYSICAL SCIENCES ^{4/}	X	12.3	17.6	19.1	13.3	2.2	15.4	23.8	24.8	23.3	3.1	8.2	8.1	4.7
ENGINEERING		4.7	23.4	24.0	8.1	4.5	16.7	34.1	31.8	29.7	1.6	3.1	10.5	4.0
LIFE SCIENCES		17.6	16.0	18.6	17.4	12.4	23.3	17.4	16.8	17.9	6.3	17.5	25.1	11.9
SOCIAL SCIENCES		21.9	15.8	14.6	20.8	15.7	17.0	9.5	11.1	11.6	19.6	24.8	17.6	19.6
ARTS & HUMANITIES		12.8	11.6	6.0	12.0	13.5	7.2	3.8	4.4	4.8	8.3	9.3	4.6	7.4
EDUCATION		26.3	10.2	13.4	23.9	47.2	17.2	6.6	8.2	9.4	55.6	29.9	28.1	46.8
PROFESSIONS & OTHER		4.5	5.3	4.4	4.5	4.5	3.3	4.8	2.9	3.3	5.6	5.2	5.9	5.6
MEDIAN AGE AT DOCTORATE		32.4	32.6	32.1	32.4	36.3	32.7	31.8	31.1	31.4	37.3	34.0	34.3	35.8
MEDIAN TIME LAPSE BA-PhD														
TOTAL TIME	YRS	9.6	9.2	8.6	9.4	11.6	9.8	9.4	8.6	8.9	13.0	8.1	7.6	10.8
REGISTERED TIME		6.5	6.3	5.6	6.4	7.1	7.0	6.5	5.9	6.2	7.1	6.2	5.1	6.3
GRADUATE SCHOOL SUPPORT														
FEDERAL FELLOW/TRAINER	X	20.7	10.1	7.0	17.8	25.8	24.3	11.6	8.1	11.5	17.8	3.1	7.3	14.1
GI BILL		6.9	.2	.0	5.5	7.9	2.6	.0	.0	.4	7.9	1.0	.0	5.5
OTHER FELLOWSHIP		20.4	22.6	19.2	19.7	15.7	19.1	22.9	19.8	19.9	22.3	23.7	18.1	21.2
TEACHING ASSISTANTSHIP		45.6	50.4	37.1	43.2	31.5	42.0	52.3	45.0	45.1	25.7	39.2	25.9	26.5
RESEARCH ASSISTANTSHIP		33.8	49.5	45.1	34.7	13.5	43.3	62.3	59.5	55.8	15.4	25.8	31.9	20.2
EDUC./INST. FUNDS		10.7	8.9	9.1	10.1	5.6	14.1	8.1	8.9	9.4	11.7	6.2	9.5	10.7
OWN/SPOUSE EARNINGS		69.1	52.7	28.0	60.9	77.5	53.7	43.9	20.7	31.0	73.3	61.9	41.1	64.2
FAMILY CONTRIBUTIONS		15.9	19.2	19.6	16.0	6.7	16.3	19.8	21.0	19.3	10.8	19.6	17.3	12.9
NATL DIRECT STUDY LOAN		12.8	7.1	.8	10.6	14.6	10.9	5.3	.3	3.2	17.6	16.5	1.1	13.3
OTHER LOANS		12.1	8.5	4.7	10.6	14.6	9.1	5.5	2.9	4.5	17.7	20.6	8.1	15.4
OTHER		4.3	5.0	28.4	7.2	3.4	3.5	2.5	12.4	8.3	5.3	9.3	41.9	14.7
UNKNOWN		2.3	1.6	3.6	5.8	.0	1.7	1.8	2.3	4.6	1.6	2.1	3.0	2.4
POSTDOCTORAL STUDY PLANS	X	18.3	17.8	23.5	18.3	9.0	26.5	20.3	29.6	26.1	7.1	11.3	13.8	9.0
PLANNED EMPLOYMENT AFTER DOCTORATE		79.0	78.1	72.3	75.4	91.0	70.4	75.9	66.7	67.8	90.5	83.5	83.5	87.9
EDUC. INSTITUTION		47.1	35.1	41.6	44.3	56.2	30.4	22.8	33.5	29.8	61.7	48.5	52.2	58.2
INDUSTRY/BUSINESS		14.0	32.2	13.8	14.2	12.4	25.4	44.7	20.0	25.9	7.8	11.3	6.8	7.8
GOVERNMENT		9.2	3.7	10.4	8.8	10.1	8.7	2.3	7.6	4.4	11.6	13.4	15.1	12.5
NON-PROFIT		3.3	3.4	2.4	4.7	9.0	2.4	3.3	2.2	2.5	4.9	1.0	3.5	4.2
OTHER & UNKNOWN		3.4	3.8	4.1	3.4	3.4	3.5	2.8	3.3	3.2	4.5	9.3	5.9	5.1
POSTDOCT STATUS UNKNOWN	X	2.7	4.0	4.2	6.3	.0	3.0	3.8	3.7	6.0	2.4	5.2	2.7	3.1
DEFINITE POSTDOCT STUDY	X	14.1	10.7	13.9	13.4	6.7	18.3	12.0	17.8	16.1	4.3	3.1	5.1	4.4
SEEKING POSTDOCT STUDY		4.2	7.2	9.6	4.9	2.2	8.3	8.3	11.8	10.1	2.9	8.2	8.6	4.7
DEFINITE EMPLOYMENT		59.3	50.5	51.8	56.0	66.3	49.6	51.0	47.7	47.6	66.0	46.4	52.7	61.1
SEEKING EMPLOYMENT		19.7	27.7	20.6	19.5	24.7	20.9	24.9	19.1	20.2	24.4	37.1	30.8	26.8
EMPLOYMENT LOCATION AFTER DOCTORATE														
U.S.	X ^{5/}	93.2	84.1	29.3	85.5	93.2	89.5	89.3	46.2	63.9	88.7	66.7	12.8	71.2
FOREIGN		1.4	7.8	64.9	9.0	.0	2.6	6.2	46.7	29.1	.2	15.6	78.5	17.9
UNKNOWN		5.4	4.1	5.8	5.5	6.8	7.9	4.6	7.1	7.0	11.1	17.8	8.7	10.9

^{1/}Data not comparable with data for earlier years because of changes in the survey question on racial/ethnic group.
See discussion on page 25.

^{2/}Includes individuals who did not report their citizenship at time of doctorate.

^{3/}Includes those who provided no usable response to the item on racial/ethnic group.

^{4/}Includes mathematics and computer sciences.

^{5/}The base for this percentage is the number of doctorates in the column caption group who have found definite employment.

TABLE 5. CONTINUED

WHITE				PUERTO RICAN	MEXICAN-AMERICAN				OTHER HISPANIC ^{2/}				OTHER & UNKNOWN		
U.S.	NON-U.S. PERM.	U.S. TEMP.	TOTAL	TOTAL	U.S.	NON-U.S. PERM.	U.S. TEMP.	TOTAL	U.S.	NON-U.S. PERM.	U.S. TEMP.	TOTAL	U.S.	NON-U.S.	TOTAL
21911	489	1423	23849 ^{2/}	115	154	7	56	219 ^{2/}	193	54	331	594 ^{2/}	1059	206	2266 ^{2/3/}
65.8	67.7	65.6	67.1	69.6	66.2	71.4	87.5	72.1	59.5	75.9	81.9	74.1	71.5	85.0	70.8
34.2	32.3	14.4	32.9	50.4	33.8	28.6	12.5	27.9	40.5	24.1	18.1	25.9	28.5	15.0	29.2
12.5	13.3	16.6	12.8	12.2	1.9	.0	19.6	6.4	9.7	9.3	13.9	12.1	17.5	19.9	14.2
4.6	17.2	21.3	5.9	4.3	1.3	.0	26.8	8.2	2.6	7.4	18.1	12.1	4.9	15.5	7.4
18.1	13.3	14.2	17.7	8.7	8.4	28.6	33.9	15.5	12.3	22.2	36.9	27.1	19.2	15.5	15.9
22.2	19.6	17.8	21.9	13.9	27.3	42.9	12.5	23.7	24.1	25.9	12.7	17.8	19.2	18.0	21.9
13.0	20.4	8.1	12.9	20.0	10.4	14.3	.0	7.8	27.2	20.4	6.3	14.6	12.7	7.8	13.0
25.2	10.2	15.4	24.3	33.0	48.7	14.3	7.1	37.0	20.5	11.1	10.6	13.6	20.8	18.9	22.4
4.5	5.9	6.5	6.6	7.8	1.9	.0	.0	1.4	3.6	3.7	1.5	2.5	5.8	4.4	5.3
32.2	33.4	32.1	32.2	33.9	35.0	34.0	32.3	34.3	32.9	33.9	34.3	33.8	31.9	33.0	32.2
9.4	9.3	8.6	9.4	11.4	10.9	7.5	9.1	10.4	9.9	9.5	10.0	9.9	9.3	9.0	9.3
6.4	6.2	5.6	6.4	6.7	6.4	5.2	5.7	6.1	6.8	6.1	5.3	5.8	6.4	5.4	6.2
21.0	8.8	5.9	19.8	19.1	29.9	.0	1.8	21.9	22.6	14.8	7.9	13.1	13.8	6.8	7.2
7.0	.0	.0	6.4	5.2	11.0	14.3	.0	8.2	3.6	.0	.3	1.3	5.3	.0	2.5
20.4	23.1	19.5	20.4	37.4	27.9	28.6	21.4	26.5	27.2	16.7	18.1	20.7	15.6	14.1	8.7
47.4	51.7	36.7	46.9	27.8	36.4	28.6	21.4	32.0	42.7	42.6	21.5	32.2	32.5	29.1	18.1
35.1	39.5	39.6	35.5	23.5	22.1	14.3	33.9	25.1	21.0	42.6	27.5	26.3	26.9	30.6	15.6
10.7	9.4	9.3	10.6	21.7	15.6	.0	1.8	11.9	9.2	11.1	10.9	10.1	7.3	10.2	4.5
70.4	61.8	34.2	68.1	57.4	71.4	57.1	10.7	55.7	63.1	46.3	24.6	39.9	46.0	28.6	24.5
16.6	18.4	21.8	16.9	10.4	7.8	14.3	7.1	7.8	15.9	14.8	12.4	13.5	10.0	14.6	6.0
12.8	7.0	1.3	12.0	27.8	14.9	14.3	.0	11.0	12.3	7.4	.3	4.9	8.2	2.4	4.1
12.0	9.0	5.1	11.5	21.7	10.4	.0	10.7	10.0	12.8	16.7	6.3	9.3	7.9	5.3	4.2
4.3	7.0	34.4	6.2	7.8	4.5	.0	55.4	17.4	6.2	5.6	53.8	32.5	2.5	34.0	4.4
1.0	.4	3.2	1.2	4.3	1.3	14.3	1.8	1.8	2.1	7.4	5.1	5.9	28.8	14.1	58.3
18.8	15.7	22.2	18.9	11.3	13.6	42.9	23.2	16.9	16.4	14.8	13.0	14.1	16.8	20.4	10.0
79.6	80.6	73.5	79.2	84.3	85.1	57.1	76.8	81.7	81.0	77.8	83.4	80.8	57.6	67.0	33.5
47.3	44.4	45.0	47.1	69.6	58.4	28.6	39.3	52.5	49.2	44.4	54.4	51.0	31.7	39.8	18.6
14.2	23.1	10.9	14.2	3.5	7.8	14.3	16.1	10.0	10.8	20.4	7.3	9.6	12.7	9.2	7.1
9.3	3.5	10.9	9.3	6.1	11.0	14.3	17.9	12.8	12.3	3.7	14.8	12.6	5.2	9.7	3.3
5.4	3.9	2.5	5.2	2.6	3.9	.0	1.8	3.2	3.1	3.7	2.1	2.5	4.6	1.9	2.3
3.3	3.7	4.1	3.4	2.6	3.9	.0	1.8	3.2	5.6	5.6	4.8	5.1	3.3	6.3	2.3
1.6	3.7	4.2	1.8	4.3	1.3	.0	.0	1.4	2.6	7.4	3.6	5.1	25.6	12.6	56.4
14.6	10.2	13.7	14.5	9.6	9.1	28.6	14.3	11.0	10.8	11.1	6.6	8.2	12.7	13.1	7.3
4.2	5.5	8.6	4.5	1.7	4.5	14.3	8.9	5.9	5.6	3.7	6.3	5.9	4.2	7.3	2.7
59.9	51.7	53.6	59.4	70.4	61.0	57.1	51.8	58.0	56.9	48.1	65.3	59.8	43.4	44.2	24.5
19.6	28.8	19.9	19.8	13.9	24.0	.0	25.0	23.7	24.1	29.6	18.1	21.0	14.2	22.8	9.0
93.7	86.2	25.4	89.8	94.3	89.4	50.0	3.4	68.5	94.6	84.6	8.8	41.1	88.9	22.0	77.9
1.4	7.5	70.2	5.2	.0	1.1	25.0	96.6	23.6	.0	15.4	87.5	54.6	1.5	71.4	12.9
4.9	6.3	4.5	6.9	3.7	9.6	25.0	.0	7.9	5.4	.0	3.7	4.2	9.6	6.6	9.2

SOURCE: WRC, Office of Scientific and Engineering Personnel, Doctorate Records File.

SURVEY OF EARNED DOCTORATES

NSF Form 558 1979
OMB No. 99-P7290
Approval Expires June 30, 1981

This form is to be returned to the GRADUATE DEAN, for forwarding to Commission on Human Resources
National Research Council
2101 Constitution Avenue, Washington, D. C. 20418

Please print or type.

1. Name in full: (9-30)
(Last Name) (First Name) (Middle Name)
Cross Reference: Maiden name or former name legally changed
2. Permanent address through which you could always be reached: (Care of, if applicable)
(Number) (Street) (City)
(State) (Zip Code) (Or Country if not U.S.)
3. U.S. Social Security Number: (31-36)
4. Date of birth: Place of birth:
(10-14) (Month) (Day) (Year) (15-18) (State) (Or Country if not U.S.)
5. Sex: 1 ☐ Male 2 ☐ Female (17)
6. Marital status: 1 ☐ Married 2 ☐ Not married (including widowed, divorced) (18)
7. Citizenship: 0 ☐ U.S. native 2 ☐ Non U.S., Immigrant (Permanent Resident) (19)
1 ☐ U.S. naturalized 3 ☐ Non-U.S., Non-Immigrant (Temporary Resident) (20-21)
If Non-U.S., indicate country of present citizenship
8. Racial or ethnic group: (Check only one.) *A person having origins in —*
0 ☐ American Indian or Alaskan Native any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.
1 ☐ Asian or Pacific Islander any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands. This area includes, for example, China, India, Japan, Korea, the Philippine Islands, and Samoa.
2 ☐ Black, not of Hispanic Origin any of the black racial groups of Africa.
3 ☐ White, not of Hispanic Origin any of the original peoples of Europe, North Africa, or the Middle East.
4 ☐ Puerto Rican Puerto Rico, regardless of race.
5 ☐ Mexican-American Mexico, regardless of race.
6 ☐ Other Hispanic Central or South America, Cuba, or other Spanish culture, regardless of race. (22-24)
9. Number of dependents: Do not include yourself. (Dependent = someone receiving at least one half of his or her support from you) (25)

10. High school last attended: (26-27)
(School Name) (City) (State)
Year of graduation from high school: (28-29)
11. List in the table below all collegiate and graduate institutions you have attended including 2-year colleges. List chronologically, and include your doctoral institution as the last entry.

Institution Name	Location	Years Attended		Major Field		Minor Field	Degree (if any)		
		From	To	Use Specialties List		Number	Title of Degree	Mo.	Yr.
				Name	Number				

12. Enter below the title of your doctoral dissertation and the most appropriate classification number and field. If a project report or a musical or literary composition (not a dissertation) is a degree requirement, please check box. ☐ (12)

Title Classify using Specialties List
..... Number Name of field
.....

13. Name the department (or interdisciplinary committee, center, institute, etc.) and school or college of the university which supervised your doctoral program:
(Department/Institute/Committee/Program) (School)

14. Name of your adviser for dissertation, project report or music/literary composition:
(Last Name) (First Name) (Middle Initial)

continued on next page

SURVEY OF EARNED DOCTORATES, Cont.

15. Please enter a "1" beside your primary source of support during graduate study. Enter a "2" beside your secondary source of support during graduate study. Check (/) all other sources from which support was received.

- | | | | |
|--|--|---|--------------------------|
| a — NSF Fellowship | b — AEC/ERDA/DOE Fellowship | n — University Fellowship | s — Own earnings |
| b — NSF Traineeship | i — NASA Traineeship | o — Teaching Assistantship | t — Spouse's earnings |
| c — NIH Fellowship | j — GI Bill | p — Research Assistantship | u — Family contributions |
| d — NIH Traineeship | k — Other Federal support | q — Educational fund of industrial or business firm | v — Loans (NDSL direct) |
| e — NDEA Fellowship | (specify) | r — Other institutional funds (specify) | w — Other loans |
| f — Title IX Graduate & Professional Opportunities Pgm. Fellowship | l — Woodrow Wilson Fellowship | x — Other (specify) | |
| g — Other HEW | m — Other U.S. national fellowship (specify) | | |

(74-76)

16. Please check the space which most fully describes your status during the year immediately preceding the doctorate.

- | | | |
|--|--|--|
| 0 ☐ Held fellowship | Full-time
Employed in:
(Other than
0, 1, 2) | 5 ☐ College or university, teaching |
| 1 ☐ Held assistantship | | 6 ☐ College or university, non-teaching |
| 2 ☐ Held own research grant | | 7 ☐ Elem. or sec. school, teaching |
| 3 ☐ Not employed | | 8 ☐ Elem. or sec. school, non-teaching |
| 4 ☐ Part-time employed | | 9 ☐ Industry or business |
| | | (11) ☐ Other (specify) |
| | | (12) ☐ Any other (specify) |

(80)

17. How well defined are your postgraduation plans?

- 0 ☐ Am returning to, or continuing in, predoctoral employment
- 1 ☐ Have signed contract or made definite commitment
- 2 ☐ Am negotiating with one or more specific organizations
- 3 ☐ Am seeking appointment but have no specific prospects
- 4 ☐ Other (specify) (81)

18. What are your immediate postgraduation plans?

- | | |
|--|----------------------|
| 0 ☐ Postdoctoral fellowship | } Go to
Item "19" |
| 1 ☐ Postdoctoral research associateship | |
| 2 ☐ Traineeship | |
| 3 ☐ Other study (specify) | |
| 4 ☐ Employment (other than 0, 1, 2, 3) | } Go to
Item "20" |
| 5 ☐ Military service | |
| 6 ☐ Other (specify) (82) | |

19. If you plan to be on a postdoctoral fellowship, associateship, traineeship or other study

a. What was the most important reason for taking a postdoctoral appointment? (Check only one.)

- 0 ☐ To obtain additional research experience in my doctoral field
- 1 ☐ To work with a particular scientist or research group
- 2 ☐ To switch into a different field of research
- 3 ☐ Could not obtain the desired type of employment position
- 4 ☐ Other reason (specify) (83)

b. What will be the field of your postdoctoral study?

Please enter number from Specialties List (84-86)

c. What will be the primary source of research support?

- 0 ☐ U.S. Government
- 1 ☐ College or university
- 2 ☐ Private foundation
- 3 ☐ Nonprofit, other than private foundation
- 4 ☐ Other (specify)
- 6 ☐ Unknown (87)
- Go to Item "21"

20. If you plan to be employed, enter military service, or other —

a. What will be the type of employer?

- 0 ☐ 4-year college or university other than medical school
- 1 ☐ Medical school
- 2 ☐ Jr. or community college
- 3 ☐ Elem. or sec. school
- 4 ☐ Foreign government
- 5 ☐ U.S. Federal government
- 6 ☐ U.S. state government
- 7 ☐ U.S. local government
- 8 ☐ Nonprofit organization
- 9 ☐ Industry or business
- (11) ☐ Self-employed
- (12) ☐ Other (specify) (88)

b. Indicate what your primary work activity will be with "1" in appropriate box; secondary work activity (if any) with "2" in appropriate box.

- 0 ☐ Research and development
- 1 ☐ Teaching
- 2 ☐ Administration
- 3 ☐ Professional services to individuals
- 5 ☐ Other (specify) (89-90)

c. In what field will you be working?

Please enter number from Specialties List (81-83)

d. Did you consider taking a postdoctoral appointment?

Yes ___ No ___ (84)

If yes, why did you decide against the postdoctoral?

- 0 ☐ No postdoctoral appointment available
- 1 ☐ Felt that I would derive little or no benefit from a postdoctoral appointment
- 2 ☐ Had more attractive employment opportunity
- 3 ☐ Other (specify) (85)

Go to Item "21"

21. What is the name and address of the organization with which you will be associated?

(Name of Organization)

(Street)

(City, State)

(Or Country if not U.S.)

(86-71)

22. Please indicate, by circling the highest grade attained, the education of

<i>your father:</i>	<u>none</u>	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	MA, MD PhD	Postdoctoral	(72)	
		Elementary school								High school				College				Graduate			
<i>your mother</i>	<u>none</u>	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	MA, MD PhD	Postdoctoral	(73)	
	0	1		2		3		4		5		6		7		8		9		(11)	

Signature Date (74-76)

If you would like to receive a summary of the results of this survey, please check box. ☐ (78)

SPECIALTIES LIST

MATHEMATICS

- 000 Algebra
- 010 Analysis & Functional Analysis
- 020 Geometry
- 030 Logic
- 040 Number Theory
- 050 Probability & Math. Statistics (see also 544, 670, 725, 727, 920)
- 060 Topology
- 080 Computing Theory & Practice
- 082 Operations Research (see also 478)
- 085 Applied Mathematics
- 098 Mathematics, General
- 099 Mathematics, Other*

COMPUTER SCIENCES

- 079 Computer Sciences* (see also 437)

ASTRONOMY

- 101 Astronomy
- 102 Astrophysics

PHYSICS

- 110 Atomic & Molecular
- 132 Acoustics
- 134 Fluids
- 135 Plasma
- 136 Optics
- 138 Thermal
- 140 Elementary Particles
- 150 Nuclear Structure
- 160 Solid State
- 198 Physics, General
- 199 Physics, Other*

CHEMISTRY

- 200 Analytical
- 210 Inorganic
- 220 Organic
- 230 Nuclear
- 240 Physical
- 250 Theoretical
- 270 Pharmaceutical
- 275 Polymer
- 298 Chemistry, General
- 299 Chemistry, Other*

EARTH, ENVIRONMENTAL AND MARINE SCIENCES

- 301 Mineralogy, Petrology
- 305 Geochemistry
- 310 Stratigraphy, Sedimentation
- 320 Paleontology
- 330 Structural Geology
- 341 Geophysics (Solid Earth)
- 350 Geomorph. & Glacial Geology
- 391 Applied Geol., Geol. Engr. & Econ. Geol.
- 360 Hydrology & Water Resources
- 370 Oceanography
- 397 Marine Sciences, Other*
- 381 Atmospheric Physics and Chemistry
- 382 Atmospheric Dynamics

- 383 Atmospheric Sciences, Other*
- 388 Environmental Sciences, General (see also 480, 528)
- 389 Environmental Sciences, Other*
- 398 Earth Sciences, General
- 399 Earth Sciences, Other*

ENGINEERING

- 400 Aeronautical & Astronautical
- 410 Agricultural
- 415 Biomedical
- 420 Civil
- 430 Chemical
- 435 Ceramic
- 437 Computer
- 440 Electrical
- 445 Electronics
- 450 Industrial
- 455 Nuclear
- 460 Engineering Mechanics
- 465 Engineering Physics
- 470 Mechanical
- 475 Metallurgy & Phys. Met. Engr.
- 476 Systems Design & Systems Science
- 478 Operations Research (see also 082)
- 479 Fuel Tech. & Petrol. Engr.
- 480 Sanitary & Environmental
- 486 Mining
- 497 Materials Science
- 498 Engineering, General
- 499 Engineering, Other*

AGRICULTURAL SCIENCES

- 500 Agronomy
- 501 Agricultural Economics
- 502 Animal Husbandry
- 503 Food Science & Technology
- 504 Fish & Wildlife
- 505 Forestry
- 506 Horticulture
- 507 Soils & Soil Science
- 510 Animal Science & Animal Nutrition
- 511 Phytopathology
- 518 Agriculture, General
- 519 Agriculture, Other*

MEDICAL SCIENCES

- 522 Public Health & Epidemiology
- 523 Veterinary Medicine
- 526 Nursing
- 527 Parasitology
- 528 Environmental Health
- 534 Pathology
- 536 Pharmacology
- 537 Pharmacy
- 538 Medical Sciences, General
- 539 Medical Sciences, Other*

BIOLOGICAL SCIENCES

- 540 Biochemistry
- 542 Biophysics
- 544 Biometrics & Biostatistics (see also 050, 670, 725, 727, 920)

- 545 Anatomy
- 546 Cytology
- 547 Embryology
- 548 Immunology
- 550 Botany
- 560 Ecology
- 564 Microbiology & Bacteriology
- 566 Physiology, Animal
- 567 Physiology, Plant
- 569 Zoology
- 570 Genetics
- 571 Entomology
- 572 Molecular Biology
- 576 Nutrition and/or Dietetics
- 578 Biological Sciences, General
- 579 Biological Sciences, Other*

PSYCHOLOGY

- 600 Clinical
- 610 Counseling & Guidance
- 620 Developmental & Gerontological
- 630 Educational
- 635 School Psychology
- 641 Experimental
- 642 Comparative
- 643 Psychobiological
- 650 Industrial & Personnel
- 660 Personality
- 670 Psychometrics (see also 050, 544, 725, 727, 920)
- 680 Social
- 698 Psychology, General
- 699 Psychology, Other*

SOCIAL SCIENCES

- 700 Anthropology
- 708 Communications*
- 710 Sociology
- 720 Economics (see also 501)
- 725 Econometrics (see also 050, 544, 670, 727, 920)
- 727 Statistics (see also 050, 544, 670, 725, 920)
- 740 Geography
- 745 Area Studies*
- 751 Political Science
- 752 Public Administration
- 755 International Relations
- 760 Criminology & Criminal Justice
- 770 Urban & Reg. Planning
- 798 Social Sciences, General
- 799 Social Sciences, Other*

HUMANITIES

- 802 History & Criticism of Art
- 804 History, American
- 805 History, European
- 806 History, Other*
- 807 History & Philosophy of Science
- 808 American Studies
- 809 Theatre and Theatre Criticism
- 830 Music
- 831 Speech as a Dramatic Art (see also 885)
- 832 Archeology
- 833 Religion (see also 881)
- 834 Philosophy

- 835 Linguistics
- 836 Comparative Literature
- 878 Humanities, General
- 879 Humanities, Other*

LANGUAGES & LITERATURE

- 811 American
- 812 English
- 821 German
- 822 Russian
- 823 French
- 824 Spanish & Portuguese
- 826 Italian
- 827 Classical*
- 829 Other Languages*

EDUCATION

- 900 Foundations: Social & Philosoph.
- 910 Educational Psychology
- 908 Elementary Educ., General
- 909 Secondary Educ., General
- 918 Higher Education
- 919 Adult Educ. & Extension Educ.
- 920 Educ. Meas. & Stat.
- 929 Curriculum & Instruction
- 930 Educ. Admin. & Superv.
- 940 Guid., Couns., & Student Pers.
- 950 Special Education (Gifted, Handicapped, etc.)
- 960 Audio-Visual Media

TEACHING FIELDS

- 970 Agriculture Educ.
- 972 Art Educ.
- 974 Business Educ.
- 975 Early Childhood Educ.
- 976 English Educ.
- 978 Foreign Languages Educ.
- 980 Home Economics Educ.
- 982 Industrial Arts Educ.
- 984 Mathematics Educ.
- 986 Music Educ.
- 987 Nursing Educ.
- 988 Phys. Ed., Health, & Recreation
- 989 Reading Education
- 990 Science Educ.
- 992 Social Science Educ.
- 993 Speech Education
- 994 Vocational Educ.
- 996 Other Teaching Fields*
- 998 Education, General
- 999 Education, Other*

OTHER PROFESSIONAL FIELDS

- 881 Theology (see also 833)
- 882 Business Administration
- 883 Home Economics
- 884 Journalism
- 885 Speech & Hearing Sciences (see also 831)
- 886 Law & Jurisprudence
- 887 Social Work
- 891 Library & Archival Science
- 897 Professional Field, Other*

899 OTHER FIELDS*

* Identify the specific field in the space provided on the questionnaire.

CODE NUMBERS FOR FIELDS DISPLAYED IN TABLE 2

Physics & Astronomy (101-199)
 Chemistry (200-299)
 Earth, Environmental, and Marine Sciences (301-399)

 Physical Sciences Subtotal (101-399)
 Mathematics (000-060, 080-099)
 Computer Sciences (079)
 Engineering (400-499)

 EMP Total (000-499)

 Biochemistry (540)
 Basic Medical Sciences (542, 545-548, 564-566, 572)
 Other Biosciences (544, 550-562 567-571, 576-579)

 Biosciences Subtotal (540-579)
 Medical Sciences (520-539)
 Agricultural Sciences (500-519)

 Life Sciences Total (500-579)

 Psychology (600-699)
 Economics and Econometrics (720,725)
 Anthropology and Sociology (700, 710)
 Political Science, Public Administration, International Relations (751-755)
 Other Social Sciences (708, 727-745, 760-799)

 Social Sciences Total (600-799)

 Total Sciences (000-799)

 History (804-807)
 English and American Language and Literature (811-812)
 Foreign Languages and Literature (821-829)
 Other Humanities (802, 808-809, 830-879)

 Humanities Total (802-879)

 Professional Fields (881-897)

 Education (900-999)

 Total Non-Sciences (802-897, 900-999)

 Other or Unspecified (899)

TITLES OF DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES

DAS	Doctor of Applied Science	SDJ	Doctor of Juridical Science
DArch	Doctor of Architecture	JSD	Doctor of Juristic Science
DA	Doctor of Arts	DLS	Doctor of Library Science
DBA	Doctor of Business Administration	DMin or DM	Doctor of Ministry (except professional)
JCD	Doctor of Canon Law	DM	Doctor of Music
DCJ	Doctor of Criminal Justice	DMA	Doctor of Musical Arts
DCrim	Doctor of Criminology	DME	Doctor of Music Education
EDD	Doctor of Education	DML	Doctor of Modern Languages
DEng	Doctor of Engineering	DNSc	Doctor of Nursing Science
DESc	Doctor of Engineering Science	PhD	Doctor of Philosophy
ScDE	Doctor of Engineering Science	DPE	Doctor of Physical Education
DEnv	Doctor of Environment	DPA	Doctor of Public Administration
DED	Doctor of Environmental Design	DPH	Doctor of Public Health
DFA	Doctor of Fine Arts	DRec or DR	Doctor of Recreation
DF	Doctor of Forestry	DRE	Doctor of Religious Education
DGS	Doctor of Geological Science	DSM	Doctor of Sacred Music
DHS	Doctor of Health and Safety	STD	Doctor of Sacred Theology
DHL	Doctor of Hebrew Literature	DSc	Doctor of Science
DHS	Doctor of Hebrew Studies	DScH	Doctor of Science and Hygiene
DIT	Doctor of Industrial Technology	DScD	Doctor of Science in Dentistry
		LScD	Doctor of Science and Law
		DSSc	Doctor of Social Science
		DSW	Doctor of Social Work
		ThD	Doctor of Theology